The OIL WEEKLY

A Journal for
Oil and Gas Producers and Field Men

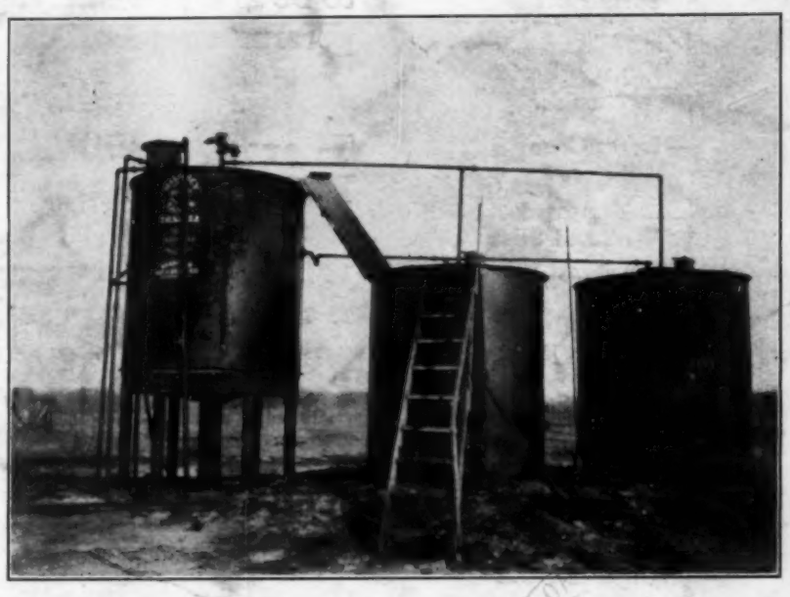
April 17, 1925 — 10 Cents A Copy

DOUBLE LIFE and DOUBLE DUTY TANKS

Many practical operators are using Maloney Flow Tanks as gas separators. Maloney Vapor-proof tightness, strength and long wearing qualities are proving their economy and efficiency in this use.

No other type of separator is necessary when you use Maloney Tanks for this purpose. Simply erect the size battery that suits your requirements and you have amply met the situation.

Maloney gas and vapor tight decks with reinforced seams and chimes insure elimination of evaporation.



12 to 3,000 Bbls. Capacity

MADE OF KEYSTONE COPPER STEEL

"ALONE IN QUALITY"

MALONEY TANK MANUFACTURING CO.
Tulsa, Oklahoma

MADE OF KEYSTONE COPPER STEEL

Prompt, Dependable Export Service

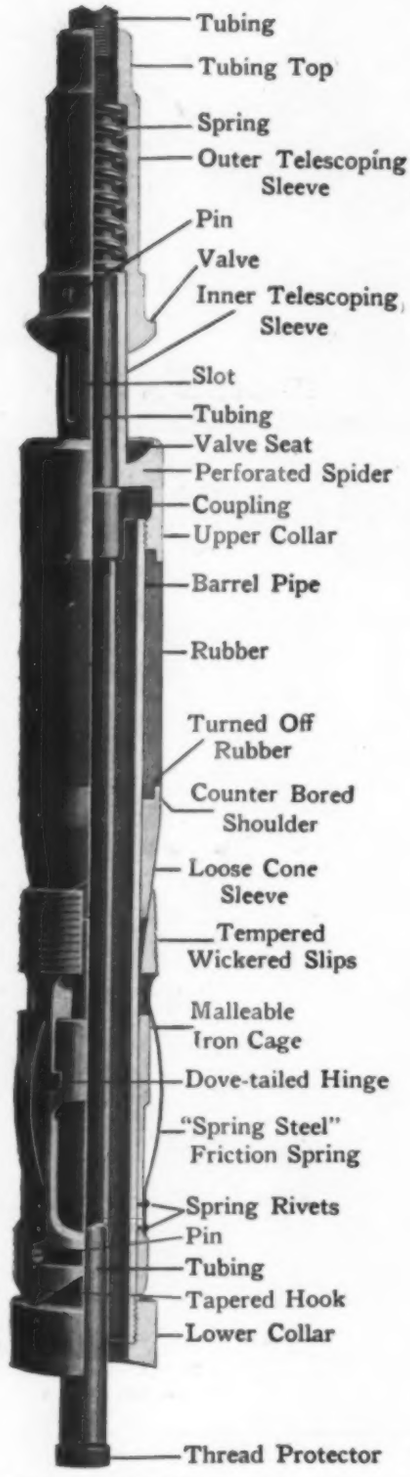
WE NOW FURNISH "BUCK" TYPE VACUUM-PRESSURE VALVES AND VACUUM BREAKERS

MALONEY

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

"OILWELL" PRESSURE RELIEF PACKER

SPRING TYPE



READY TO RUN

The "OILWELL" PRESSURE RELIEF PACKER is constructed to "run in" against heavy pressures. It conserves the gas pressure, thus prolonging the natural flow and life of the well.

The Open Valve

The valve remains open as shown in the illustration at the left, when the PACKER is run. In this position the fluid and gas pass through the large perforated spider between the tubing and the shell ot the PACKER as well as between the PACKER and the wall of the hole. This permits the PACKER to be lowered easily against heavy pressures.

No Swabbing Effect

There is no "SWABBING EFFECT" when the PACKER is removed from the hole, as the valve opens up when the tubing is raised. This permits the fluid and cavings to go through the PACKER and relieves the load above the PACKER.

For further information inquire at any of our 100 branches

"OILWELL" ESTD. 1862 C O TRADE MARK REGISTERED

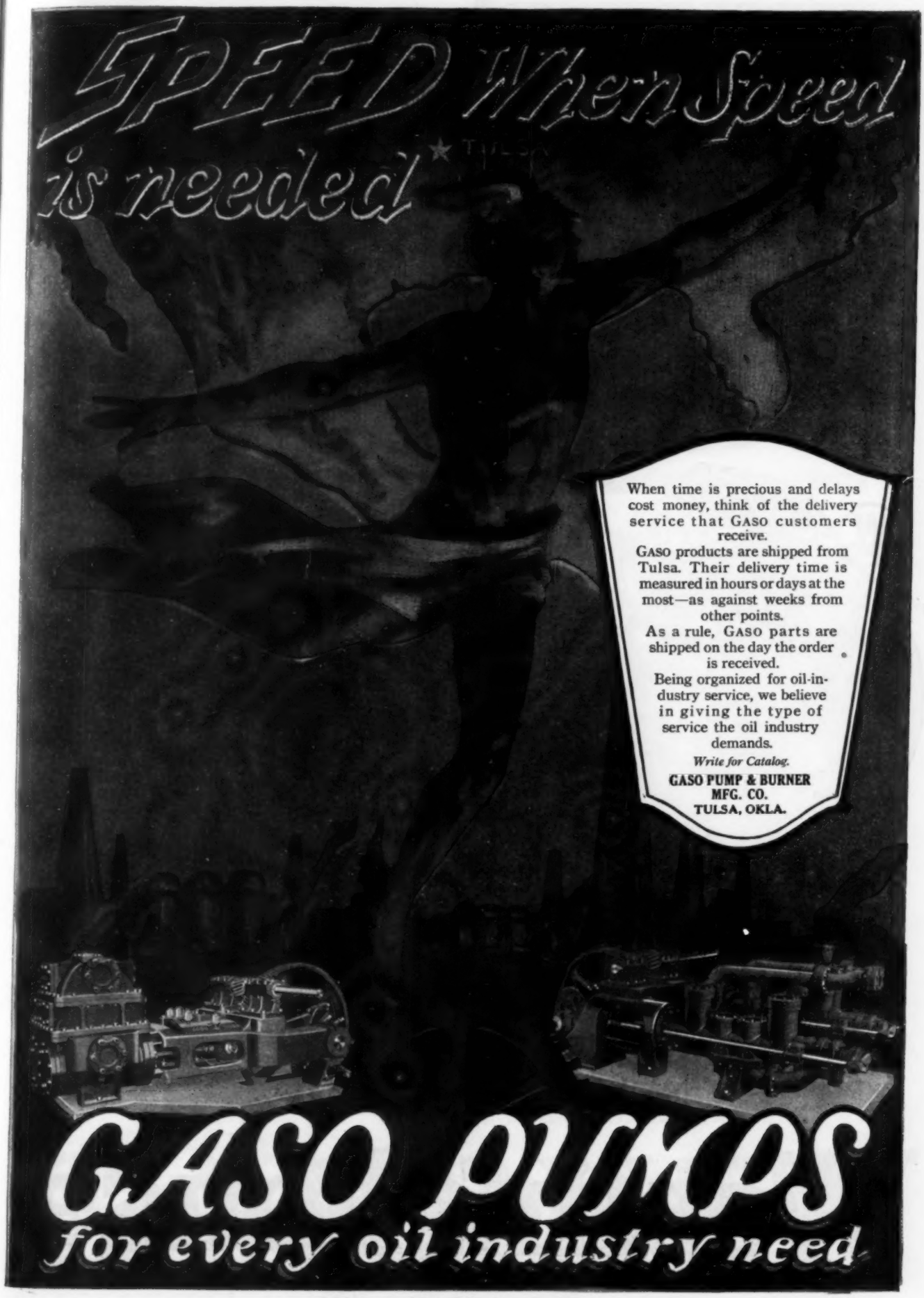
SET

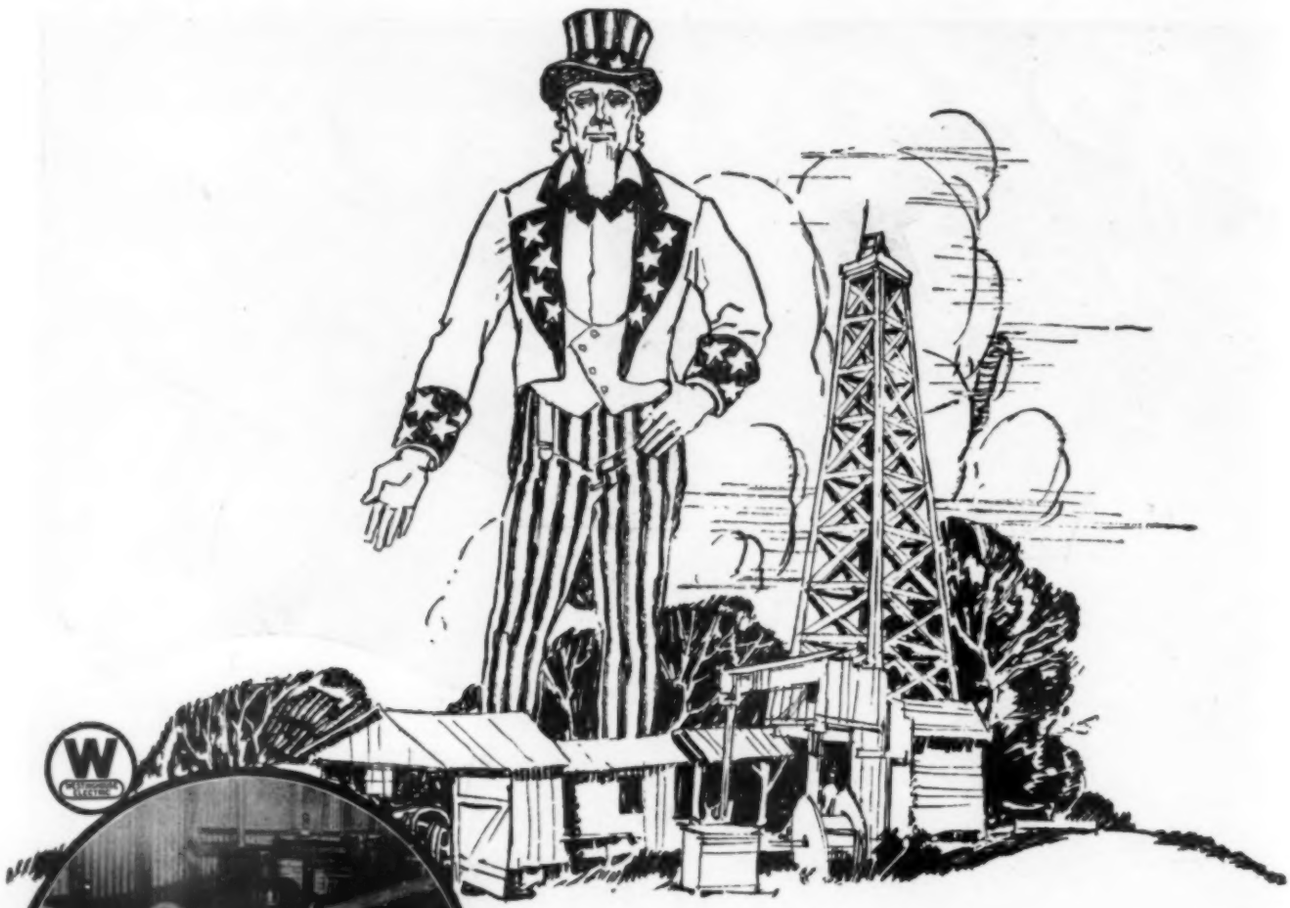
OIL WELL SUPPLY CO.

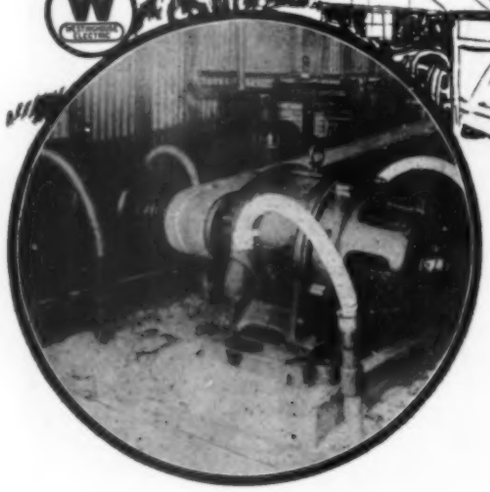
NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

THE OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.


SPEED When Speed is needed
When time is precious and delays cost money, think of the delivery service that GASO customers receive.
GASO products are shipped from Tulsa. Their delivery time is measured in hours or days at the most—as against weeks from other points.
As a rule, GASO parts are shipped on the day the order is received.
Being organized for oil-industry service, we believe in giving the type of service the oil industry demands.
Write for Catalog.
GASO PUMP & BURNER MFG. CO.
TULSA, OKLA.
GASO PUMPS
for every oil industry need





U. S. Patent 1,511,990 has been issued to the Westinghouse Electric and Manufacturing Company covering sale and use of equipment used in the drilling system, which is known throughout the Petroleum Industry as "Twin Motor Drilling Equipment."

His Approval

UNCLE SAM has shown his approval and appreciation of the long continued efforts of Westinghouse engineers to produce and perfect the best Electric Cable Tool Drilling Equipment and System by issuing of Patent No. 1,511,990.

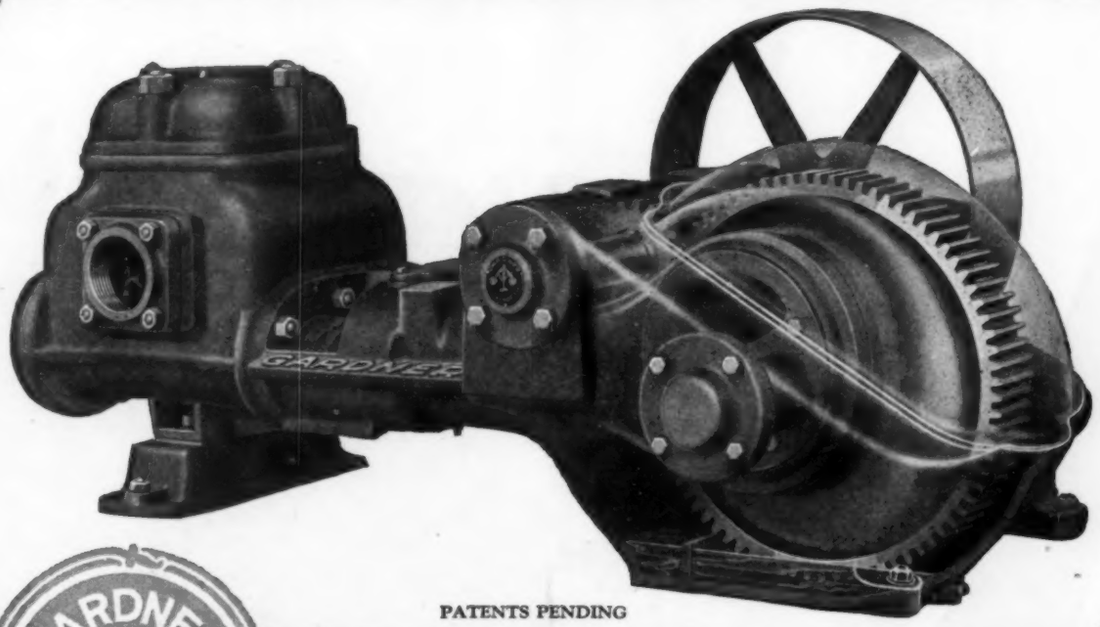
Westinghouse license is granted when Westinghouse motors and control are employed in this approved system, either for new or existing installations.

Westinghouse Electric & Manufacturing Company
East Pittsburgh Pennsylvania
Sales Offices in All Principal Cities of
the United States and Foreign Countries

Westinghouse

X79781

Say you saw it in The Oil Weekly

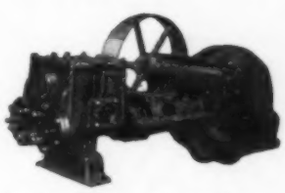


PATENTS PENDING

GARDNER GOVERNORS PUMPS · COMPRESSORS

OILED 3 TIMES SINCE LAST APRIL

Enclosed Duplex for Oil Line and Other High Pressure Work.



Enclosed Duplex Booster Pump for Portable Drilling Service.

Packed Piston Type Direct Connected to Motor.

One of our new enclosed, flood-lubricated power pumps has been giving continuous water service in our own shops since last April. Lubricating oil has been added only three times since. Each time a single quart of oil was added to the old oil remaining in the reservoir. Our statement that this new pump requires oiling only once a month instead of daily is thus seen to be conservative.

The ideal pump for oil field water service where operation is by remote control and it is convenient to inspect the pump only at long intervals. Strictly a GARDNER innovation. World wide interest is being manifested. Ask for Bulletin EP-1.

THE GARDNER GOVERNOR COMPANY

Quincy, Illinois

CHICAGO 549 W. Washington Blvd.
NEW YORK 534 Singer Bldg.
PHILADELPHIA 604 Arch St.
HOUSTON 718 Heights Blvd.
SAN FRANCISCO 400 Fourth St.
LOS ANGELES 419 E. Third St.

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F. W. Heitmann Co., Houston.
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Haywood Williamson Co., Shreveport.
Republic Supply Co., Los Angeles.
Kirk W. Eickelberger, Rialto Building, San Francisco.
Perkins, Macintosh Petroleum Tool and Boring Co., Ltd., 25 Bishopsgate E. C. 2, London, Eng.

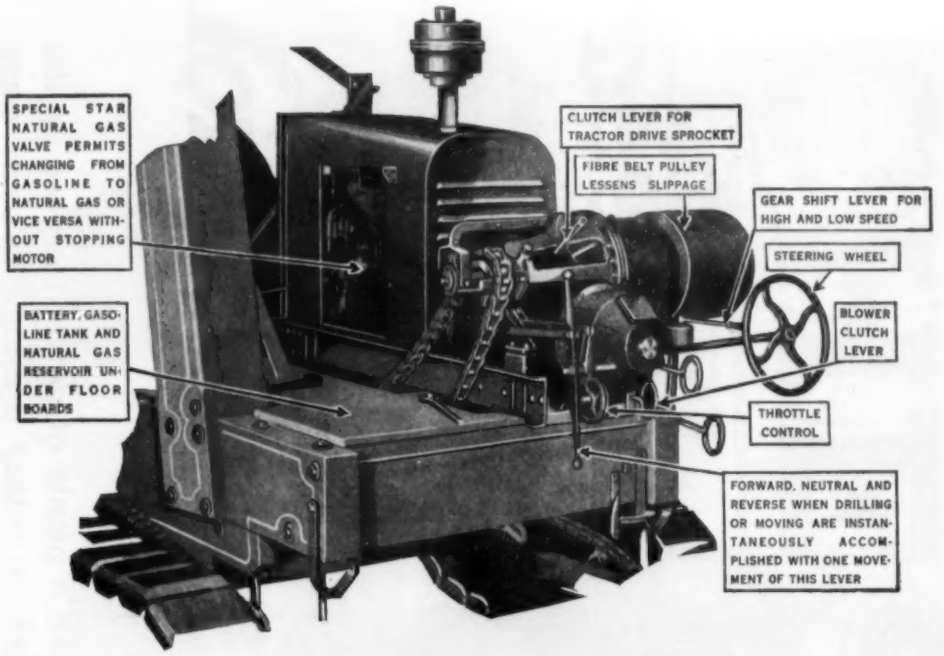
If Your Supply Company Can't Supply You, Write Us Direct

GARDNER

Announcing the New STARS
Nos. 28ST and 30ST
Super-Tractors

Say you saw it in The Oil Weekly

Great New STARS Most Economical Machines For Cleaning Out and Drilling


SPECIAL STAR NATURAL GAS VALVE PERMITS CHANGING FROM GASOLINE TO NATURAL GAS OR VICE VERSA WITHOUT STOPPING MOTOR
BATTERY, GASOLINE TANK AND NATURAL GAS RESERVOIR UNDER FLOOR BOARDS
CLUTCH LEVER FOR TRACTOR DRIVE SPROCKET
FIBRE BELT PULLEY LESSENS SLIPPAGE
GEAR SHIFT LEVER FOR HIGH AND LOW SPEED
STEERING WHEEL
BLOWER CLUTCH LEVER
THROTTLE CONTROL
FORWARD, NEUTRAL AND REVERSE WHEN DRILLING OR MOVING ARE INSTANTANEOUSLY ACCOMPLISHED WITH ONE MOVEMENT OF THIS LEVER

For years oil men have asked for a drilling machine that would lower the cost of drilling and cleaning out. That would eliminate all or part of such costly items as moving expense, fuel, water, labor, and time.

Months of patient Star development work has solved the problem. Stars Nos. 28ST and 30ST Super-Tractors are the answer. Note carefully how these new Stars reduce and in some cases cut off entirely the above items of expense.

Moving Expense—Being tractor machines, they move under their own power and tow wagons. No teaming is necessary.

Fuel—The burning of oil, gas or coal in boilers is eliminated. A moderate amount of gasoline is all that is needed to operate these four cylinder Star Super-Tractors. And where natural gas is available the cost of operating them is cut to almost nothing by the use of the Star Natural Gas Attachment. The operator changes from gasoline to gas and vice versa without stopping the motor. Both fuels used at any time.

Water—A small amount needed only for radiator and for drilling purposes. Water for boilers eliminated.

Labor—No boiler to fire. Simply push the electric starting button and the machine is in operation. Plenty of light too, for night work provided by an electric lighting system.

Powerful Waukesha Ricardo Head 4-cylinder motor gives you all the power you ever had with steam engines, and more. Runs as smooth and velvety as steam.

Star Reversing Transmission gives you forward, dead center and reverse just like a steam engine. Reversing is instantaneous. The engine with the combination of two speeds forward and two speeds reverse is almost non-stallable.

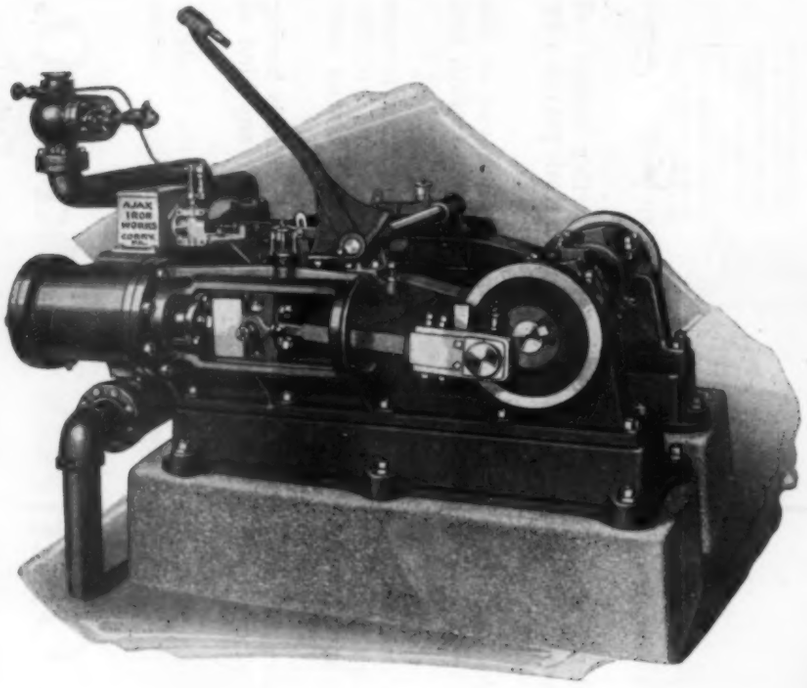
Each of these new Stars is equipped with Super-Tractor wheels having 7 square feet of ground contact enabling them to travel over any kind of country.

Bulletin No. 16 giving complete information should be in the hands of everyone interested in cutting the cost of cleaning out and drilling. Write for it.

THE STAR DRILLING MACHINE COMPANY, Akron, O.

Branches at Chanute, Kansas; Long Beach, California; Portland, Oregon. Export Office—2 Rector Street, New York City

Say you saw it in The Oil Weekly



Ideal Twin Engines are now optionally equipped with the Ajax-Carson Lubricator — Force Feed—Valveless—Sight feed showing oil being forced into steam line —gives positive, dependable lubrication.

THERE'S plenty of power to speed up the work in rotary drilling. At the same time there's control. Throttle it down until it's barely turning over. You'll find it turns the tools in an even, steady motion without balking. That's the Ideal Twin Drilling Engine. It's the engine that leads the procession, the one that others are imitating.

AJAX ENGINES

Reg. U. S. Pat. Off.

AJAX

Manufactured by

AJAX IRON WORKS, Corry, Pa.

Distributed by

NATIONAL SUPPLY COMPANIES

In every oil field.

Insist Upon Genuine Ajax Replacement Parts

Say you saw it in The Oil Weekly

CHESTER

STEEL CASING

SPECIALISTS IN CASING FOR DEEP WELL DRILLING

Actual Performance Proves the Pipe

Chester Steel Casing is proving its worth by its exceptional service records in the field.

For instance, the Globe Oil Corporation used the following Chester Casing for drilling its No. 1 Well, shown at lower left, at Huntington Beach, Calif.:

3700 feet - 8¼" - 36 lb. 8 thd.
4211 feet - 6¼" - 26 lb. 10 thd.
4909 feet - 4¾" - 15 lb. 15 thd.

Our distributors will gladly supply you.

SOUTH CHESTER TUBE COMPANY
Chester, Pa.

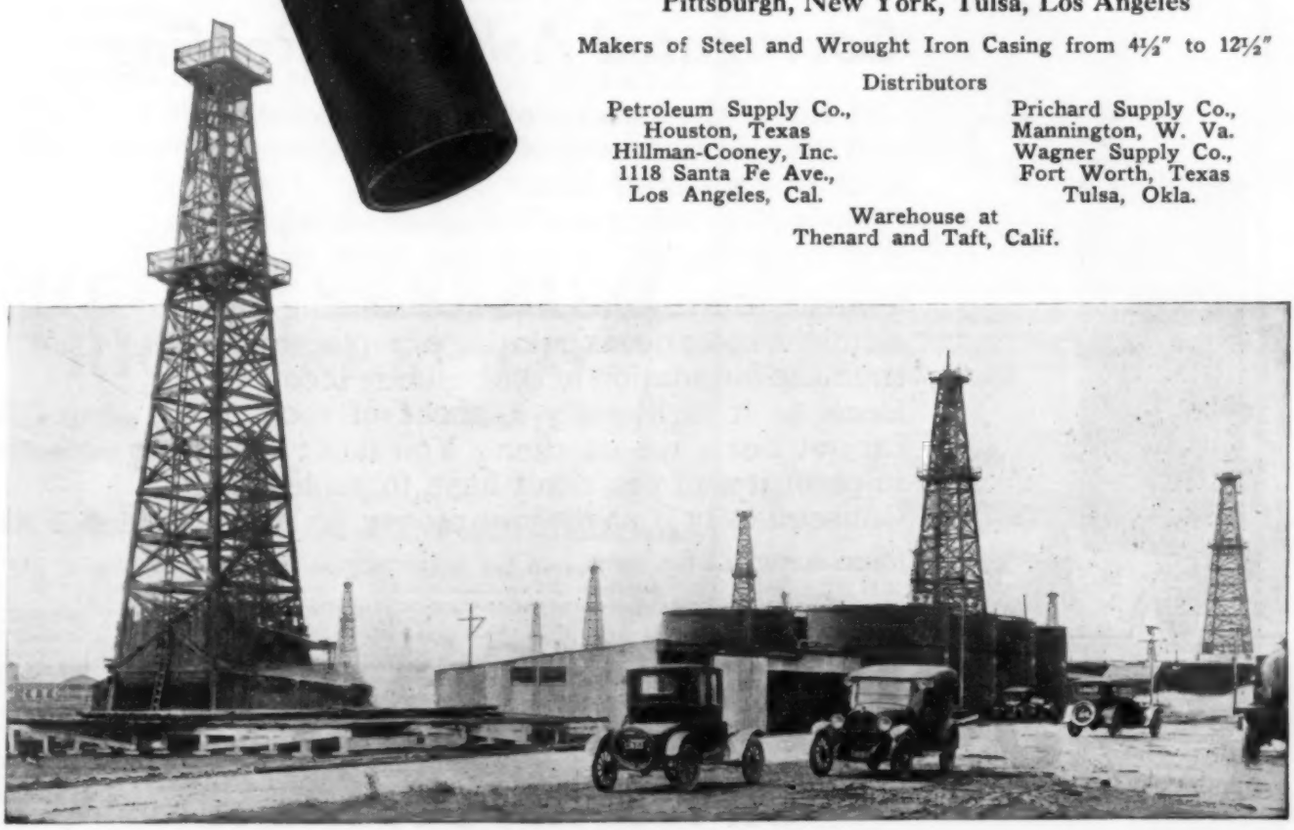
Pittsburgh, New York, Tulsa, Los Angeles

Makers of Steel and Wrought Iron Casing from 4½" to 12½"

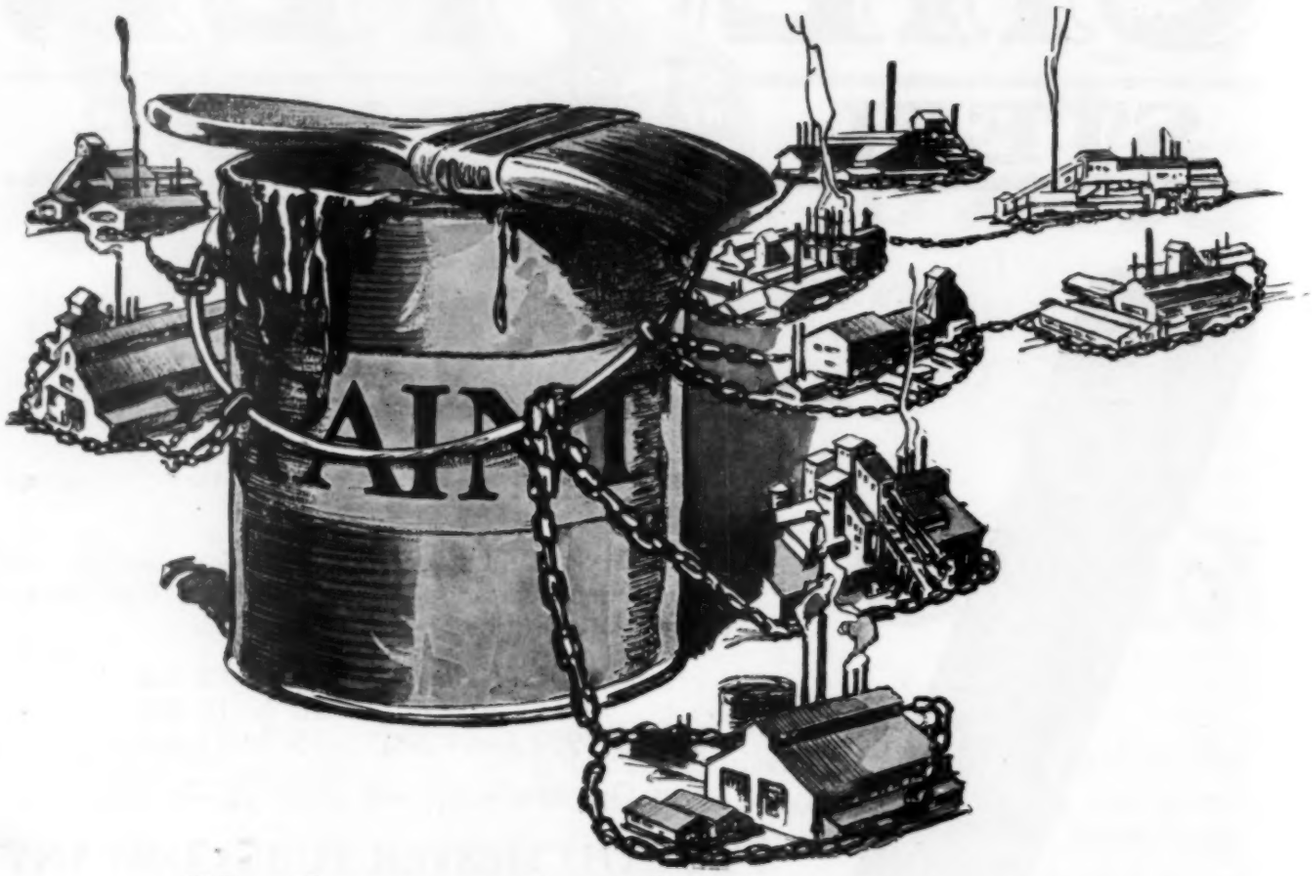
Distributors

Petroleum Supply Co., Houston, Texas
Hillman-Cooney, Inc. 1118 Santa Fe Ave., Los Angeles, Cal.
Prichard Supply Co., Mannington, W. Va.
Wagner Supply Co., Fort Worth, Texas
Tulsa, Okla.

Warehouse at Thenard and Taft, Calif.



Shackled to the paint can



Until covered with Transite Corrugated Asbestos Roofing

Get rid of the burden of constant painting and the eventual need of replacing roofs and sides of your steel-frame buildings. Cover them with a roofing and siding which is practically unaffected by weather, time, or fire.

Transite Corrugated Asbestos Roofing and siding no more needs painting or replacement than the foundation of the building it covers. Because it is literally a sheet of rock, it cannot burn, rot or rust. You don't have to paint it and you don't have to replace it. Consequently it saves you money.

JOHNS-MANVILLE Inc., 292 Madison Ave., at 41st St., New York City
Branches in 62 Large Cities
For CANADA: CANADIAN JOHNS-MANVILLE CO., Ltd., Toronto

Asbestos and its allied products
INSULATION
BRAKE LININGS
ROOFINGS
PACKINGS
CEMENTS
FIRE PREVENTION PRODUCTS

JOHNS-MANVILLE

Oil Industry Department

For Complete PIPE LINE UNITS

PARKERSBURG Bolted Steel Tanks with Swing Pipe Mechanisms are economical units for pipe line storage. These units can be supplied completely equipped with vapor-tight fixtures for prevention of losses through evaporation.

Parkersburg Swing Pipe Mechanisms can be applied to any steel tanks — any make or size — to a farm of 55's, a battery of Parkersburg bolted, or to other tanks made from lighter gauge materials.

Swing Joint doesn't depend upon side sheets for rigidity. It is *self-supporting* — rigid — and will not sag, twist, or bind.

Winch is enclosed in a gas-tight Hatch Box, for installation on the tank deck, where it is convenient for the gauger. The cable is not exposed to the weather.

Swing Pipe can be supported in any position without need for ratchets or locking devices — the spooling drum operates through worm and gear.

The Parkersburg line includes tanks and equipment developed to meet the handling and storage requirements of every producing field. Well-stocked Parkersburg warehouses — and Parkersburg Tank-setting Services — are convenient to your operations.

Written inquiries given prompt, careful attention

THE PARKERSBURG RIG & REEL CO.

Main Office and Works
Parkersburg, West Virginia

New York Office
30 Church Street

California Representatives

BUCK & STODDARD 485 California St., San Francisco, Calif.
Box 720, Arcade Station, Los Angeles, Calif.

District Offices and Distributing Warehouses from which Parkersburg Service is Available

ARKANSAS
*El Dorado
Louann
Smackover
McNeil

COLORADO
Denver

KANSAS
Eldorado
Madison

LOUISIANA
*Shreveport
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Best
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Luling
Olney
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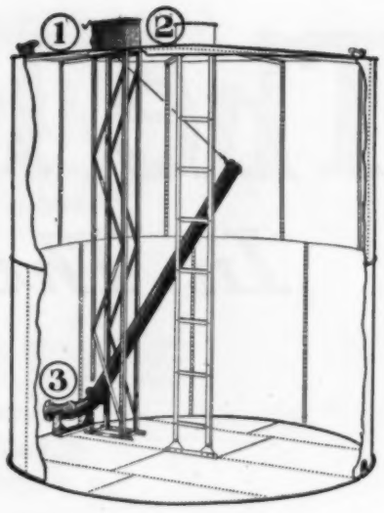
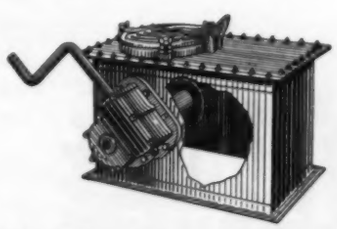
**District Offices*



1 Parkersburg Self-Clamping Gauge Hole Covers remain closed and tight until opened by raising the foot-lever. The joint between the lid and the body of the cover is sealed by a special composition gasket.

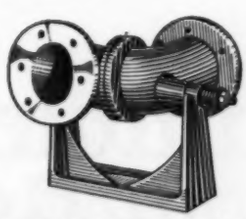
These gauge hole covers are recommended for flow, lease, or stock tanks, and for high or low pressures.

The Self-Clamping feature is a simple toggle-link mechanism. A glance at the illustration will convince you of its simplicity and its merits.



2 Parkersburg Hatch Box, enclosing the spool and cable, is electrically welded at joints and to re-enforcing angles. The cover is provided with a "look" opening and lid. The box is bolted to the tank deck — with gasket between, making a gas-tight joint. Use of stuffing boxes is eliminated.

Hand crank turns spool through a worm and gear — no locking device needed to hold swing pipe in any position. The latticed column support for the hatch box gives added stiffness to the deck, and carries the weight of the swing pipe, hatch box and winch.



3 Both halves of the Parkersburg Swing Joint are held in close contact by a rod and coiled spring; the joint is leakproof. The supporting cradle carries the weight of the Swing Joint — eliminating any tendency for sagging, twisting, or straining on side sheets or bolts.

The Right Oil

In The Right Place

Keeping down the friction load and reducing friction wear to a minimum is the problem of every operator of machinery. And there is but one solution of the problem—using the right oil in the right place.

The nature of the oil needed for the proper lubrication of bearings differs as widely as bearings do —in their type, their operating speeds and temperatures, the weight they carry at normal and peak loads, the frequency of their starting and stopping, and the method by which the oil is applied to the bearing surfaces.

All of these points have been carefully studied by our engineers, and Humble Zero Cold Test Oils have been scientifically prepared to meet certain operating conditions. Each Humble Oil is just right for the place where we recommend its use—you may depend on that—whether it be in your plant or in your automobile.

HUMBLE OIL & REFINING CO. HUMBLE OILS HOUSTON, TEXAS

The Humble Oil and Refining Company is a large user of both heavy and light equipment of various kinds, and our lubrication engineers have made exhaustive tests on our own equipment, the results of which are offered to all users of lubricating oils.

And if you are having trouble with the lubrication of any particular bearing in your plant, our engineers will be glad to study your problem and furnish you with an oil that will solve it. Just ask us.

Humble Oil & Refining Co.

HOUSTON, TEXAS

Producers ~ Pipe Lines ~ Refiners ~ Marketers

TEMPER BURNS SCREW

The Burns Tubular Temper Screw

No tool is serving the Petroleum Industry more efficiently than the Burns Tubular Temper Screw. It is Standard Equipment on all tools, and its presence always indicates the selection of the highest type of drilling tools.

A most complete acknowledgment of the superiority of the Burns Temper Screw is that each and every Supply Company throughout the world carries it in stock. Such is the monument erected to the manufacturers of the Burns Temper Screw.

BURNS TOOL COMPANY

OKMULGEE, OKLAHOMA

"Better Than a Steam Rig"

That is what the men who have used both have to say about the *Bessemer 45* Drilling Engine. It does the work faster. It is cheaper to operate. It is easier to transport. Each of these facts makes for lower drilling cost.

The *Bessemer 45* consists of a two cylinder enclosed crankcase gas engine and special drilling clutch. The engine is built with crosshead construction, exceptionally heavy reinforced bed, forged steel crankshaft, extra large, easily adjustable bearings, *cast steel* fly wheels and combination improved force-feed and splash lubrication.

The clutch is smooth running and noiseless and built to stand the hard service required of a drilling engine. It uses six large friction shoes with large clearance, has split hub clutch spider, machine-cut steel gears and phosphor bronze bushed bearings.

The complete unit permits unusual drilling economy and will stand the toughest kind of field service.

THE BESSEMER GAS ENGINE COMPANY
62 York Street Grove City, Pa.

BESSEMER

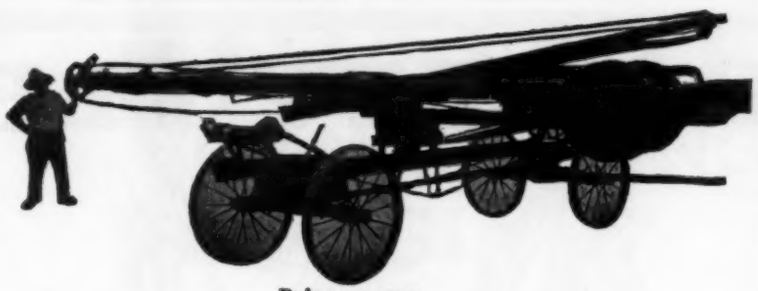
BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Say you saw it in The Oil Weekly

You Can't Fool 'Em

Any oil field worker who has had any experience with an IRON KING pulling machine can't see any other. WHY? Because he knows that an IRON KING is easily operated, is strong and durable, quick in action and dependable at all times. He knows they are built right and will do the work at all stages of the game.

Ready for the road



Balances easy

It's No Parlor Ornament

But a good, strong, durable machine that does its work as easily and quickly on the deep ones as it does on those in the shallow pay.

If your oil well supply store will not get you an IRON KING write us direct. Shall we send you a catalog?

Iron King Manufacturing Co.
Bradner — Ohio

He's putting it up

All set

IDEAL

SAFETY ELEVATOR

The Positive Acting Latch Assures Absolute Safety at All Times

THE NATIONAL SUPPLY COMPANIES

Say you saw it in The Oil Weekly

You don't need the dictionary — the meaning of "POWER" is in

TITUSVILLE STEAM DRILLING ENGINES

This is the drilling engine that can always be counted upon in emergencies — when more than the rated power is demanded.

The flexibility and quick response of the Titusville Acme is a big advantage where the formations make hard digging. It can help you make more hole at less cost.

See one and talk is over at the nearest Continental Supply Company store.

The TITUSVILLE IRON WORKS Co.
TITUSVILLE - PENNA.

TITUSVILLE EQUIPMENT

Oil Country Boilers
Steam Drilling Engines
Tico Gas Engines
Flapper Valve Pumps
Pumping Powers
Twin Drilling Engines
Rotary Machines Rotary Drawworks
Swivels Slush Pumps
Crown Blocks
Traveling Blocks
Rotary Drilling Specialties

TITUSVILLE OIL COUNTRY MACHINERY

RUGGED - ENDURING

AFFILIATED COMPANIES FOR DISTRIBUTION

For Mid-Continent, Eastern, Western and Coastal Fields:
The Continental Supply Co.

For California:
The Republic Supply Company of California

For Export:
The Continental Well Supply Company,
No. 2 Rector Street,
N. Y. City

Say you saw it in The Oil Weekly

You Can Save 25 to 40% of the Cost of Your Next Well by Using the STANDARD COLLAPSIBLE ROTARY DRILL

Can You Afford to Be Without It?

Write for folder containing full information

INVENTED, PATENTED AND MANUFACTURED BY

O. M. CARTER

W. T. HILTPOLD, SALES AGENT

206-7-8 SCANLAN BLDG.

HOUSTON, TEXAS

Say you saw it in The Oil Weekly

We Are Known by the Companies We Represent

Axelson PRODUCTS

OXY-ACETYLENE The Carbic System APPARATUS

DALEWAY "Camel Hair" Belting

DONOVAN —BOILERS—

DREADNAUGHT ROTARY EQUIPMENT

FRICK-REID Light Plants ~ Rubber Belting

J&L CASING · TUBING · LINE PIPE

JOSEPH REID GAS ENGINE CO.

JOHNS-MANVILLE —PACKINGS—

NATIONAL TRANSIT PUMP AND MACHINE CO.

RATIGAN PUMPING SPECIALTIES

ROEBLING WIRE LINES

STANDARD Seamless Casing, Drill Pipe and Tubing

WARREN STEAM ENGINES

WHITLOCK GUARANTEED CORDAGE

—among them the

Joseph Reid Gas Engine Company

than which there is no more famous manufacturer of oil country equipment today.

There are Reid Gas and Oil Engines for drilling purposes, and there is Reid equipment for every pumping requirement.

For pumping purposes Reid Engines are made in 12, 15, 20, 25, 30 and 40 HP sizes with one-way clutches for power work and reverse clutches for use on beam wells, drilling, cleaning out, etc. Reid All-Metal Band Wheel Pumping Powers are made in 14, 16, 18, 20 and 24-foot diameters for heavy work and for lighter work there are several styles of geared powers.

Ask the men at any Frick-Reid Store about Reid Oil Field Machinery, or write for illustrated catalogs.

Frick-Reid Supply Co.

Tulsa, Okla. . . . . Pittsburgh, Pa.

West of the Mississippi ~ Stores Everywhere

East of the Mississippi ~ The Frick & Lindsay Co.

In Oil Country Equipment ~ the Most Human Organization in America

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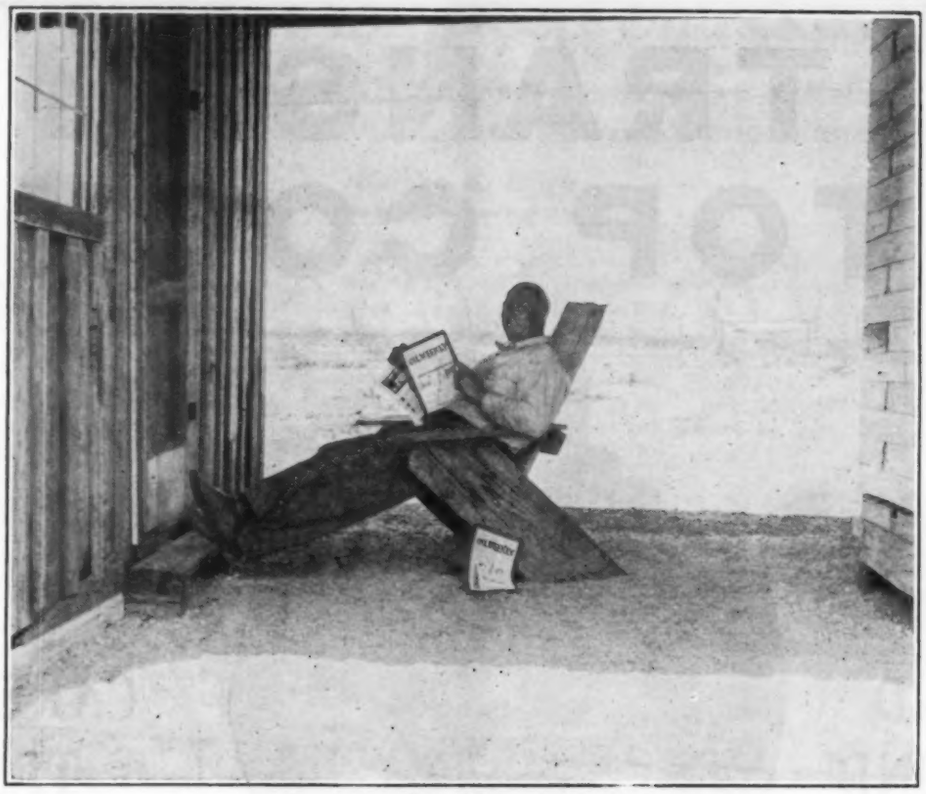

Between Tours

THE OIL WEEKLY

April 17, 1925 **Volume 37, Number 4**

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Lid Off in Rush for Deep Smackover Sand

Output may reach 300,000 barrels a day—Wells from 10,000 to 20,000 barrels initial not uncommon

By Roy E. Leigh
Special Staff Representative

El Dorado, Ark., April 13.—Deeper drilling in the Smackover field, given impetus by the long list of extraordinarily large wells being completed in sands below the 2000-foot level, has overnight become the commanding factor in crude oil situation. A predicted flood of oil not exceeded by the flush fields of Oklahoma or recent experiences along the Central West Texas fault line, finds pipe line facilities taxed beyond capacity with no demand for the crude.

Forty-eight new deep wells, all completed within the last two months, are yielding a combined total of 155,000 barrels of heavy oil per day. If sufficient storage and pipe line facilities were available, so that these wells could be opened to full capacity, this figure might be increased to 200,000 barrels a day.

More to Hear From

Many wells started in the field following the discovery of deeper production are now nearing completion. With this added output it is expected that Smackover daily production may exceed 300,000 barrels a day. Shallow sand wells in the field are accounting for 52,000 barrels of heavy oil a day which with the 32,000 barrels of light oil coming daily from the Louann vicinity puts the present daily average from the district around 240,000 barrels.

Of course, as development progresses, it is probable that the flush production from the deep sand wells will be lowered in individual cases by the effects of drainage. Otherwise, with more than 250 wells actually in progress, and with wells ranging up to 48,000 barrels per day in initial production, one might even imagine that the great Arkansas field may soon yield as much as 500,000 barrels of oil per day. Less than half of the Norphlet dome, as defined by Nacatoch sand production at 2000 feet, has as yet been tested as regards the new sand at 2400 feet. Although the so-called deep sand was discovered early in February, of this year, its full significance did not become apparent until about a month ago; and wells begun at that time are only now nearing completion. As the fifty-two completed deep wells are widely scattered over ten sections, and as the Nacatoch sand is productive over an area of more than twenty-five square miles, it is readily apparent that the deep sand boom is only now gaining headway; and that only the wildest guesses can be made as to what the next fortnight may bring forth.

Were market outlets available for the flood of heavy oil, the entire field might be drilled almost simultaneously, as the potentially productive area has been well defined by previous development of the shallow sand. As it is, even the prospect of ten, twenty, and thirty thousand barrel gushers may soon fail as a lure to harassed producers who can find no market for their oil at any price. Pipe line companies are very reluctant to extend pipe line facilities to handle flush production from deep sand wells; and it is only in isolated cases that such connections have been granted, and then on a proration basis. It is reported that the Crusader Pipe Line Company has made a few new contracts to purchase heavy oil in large quantities for delivery during the next six months at a price of 85c per barrel.

Use Earthen Pits

A distress condition is already at hand, but some relief has been obtained by a utilization of the great number of big earthen pits which were excavated during the earlier phase of the Smackover boom, when production exceeded 150,000 barrels per day with only limited outlets available, forcing the price of heavy oil down to 30 and 40 cents per barrel. Even these great

Production Averages From Deep Sand Wells at Smackover

Well owner, well name, and location—	Approximate Present Average Production
Amerada Petroleum Corp.'s Galloway 2, 4-16-15	8,000
Clark & Melat's Murphy 1, 4-16-15	800
Healy Consolidated Oil Corporation's Bradford 2, 8-16-15	460
Murphy C-1, 8-16-15	275
George & Jones' Umstead 3, 4-16-15	6,000
Gulf Refining Company's Bennett 3, 33-15-15	1,130
Murphy 7, 5-16-15	770
Murphy 9, 3-16-15	800
Murphy 12, 3-16-15	1,100
Murphy 14, 4-16-15	14,000
Goodwin 6, 32-15-15	3,900
T. C. Murphy 2, 9-16-15	10,000
Hickman et al's Graves 6, 3-16-15	3,500
Graves 8, 3-16-15	1,360
Hollifield et al's Giller 8, 10-16-15	500
Houston Oil Company's Milner 5, 3-16-15	2,775
Humble Oil & Refining Company's Pate 5, 10-16-15	7,500
Pate 6, 10-16-15	1,500
Umstead 7, 5-16-15	1,000
Imperial Oil & Gas Company's Murphy 2, 9-16-15	25,000
Leon Syndicate's Berg 2, 4-16-15.	1,100
Lion Oil & Refining Company's Bilyieu 2, 8-16-15	600
Flenniken 5, 10-16-15	400
Graves 5, 3-16-15	2,750
Graves 6, 3-16-15	Salt water
Graves 7, 3-16-15	2,500
Hays 1, 4-16-15	1,200
Lyall et al's Fee 7, 3-16-15	2,500
Mazda Oil Company's H. Lawton 1, 10-16-15	900
B. Lawton 1, 10-16-15	3,500
Marine Oil Company's Umstead 5, 5-16-15	Dead
Murdock et al's Bilyieu 2, 8-16-15	500
Murphy et al's Murphy 3, 9-16-15	5,000
Natural Gas & Petroleum Company's Murphy 1, 8-16-15	2,000
Murphy 6, 8-16-15	6,000
Ohio Oil Company's Murphy 3, 9-16-15	8,000
Murphy 4, 9-16-15	Dead
Pate 6, 10-16-15	400
Pure Oil Company's Bilyieu 2, 8-16-15	2,000
Ramage et al's Lawton 4, 10-16-15	1,500
Ray Drilling Company's Tatum 2, 7-16-15	1,350
Roxana Petroleum Company's Flenniken A-1, 8-16-15	325
H. Murphy 1, 9-16-15, pinched in two	4,000
Shreveport Oil Corporation's Murphy 1, 9-16-15	1,500
Sunny Jim Oil Company's Flenniken 3, 9-16-15	wosr
Flenniken 4, 9-16-15	6,000
Flenniken 5, 9-16-15	2,000
The Texas Company's Graves 7, 3-16-15	2,700
Graves 8, 3-16-15	1,000
Graves 9, 3-16-15	2,975
Unity Petroleum Company's Roper 7, 3-16-15	1,700
Woodley Petroleum Company's Umstead 3, 4-16-15	800
Total production from 48 flowing wells	155,570
Average production per well	3,241

The OIL WEEKLY wants only such subscribers as are engaged in the oil producing or pipe line business or sub-branches of the producing and pipe line business. It has no desire for investor circulation, and it reserves the right and will exercise the right to reject subscriptions coming from persons whose interest in the oil industry is through the purchase of oil stock.

R. L. DUDLEY, Publisher.

reservoirs are inadequate to care for the new flood of oil, and countless numbers of teams are at work in a frantic effort to provide storage for the output of the deep gushers.

Some amazing reports have emanated from the Smackover field within the last week. Ten thousand-barrel wells are common. Twenty thousand barrel wells are not unusual; and one hears rumors of wells which are said to have flowed at the rate of seventy-five thousand barrels per day. However, after all these reports have been investigated, one finds that the best of the lot of current completions probably is the Roxana Petroleum Company's H. Murphy No. 1, in section 9-16-15, which, by actual gauge, flowed 2000 barrels of oil an hour, or at the rate of 48,000 barrels per day. It is an eight-inch well, and it flowed steady streams of oil through two four-inch and one six-inch flow lines. It was finished in eight feet of sand at a total depth of 2385 feet. Because of a shortage of storage, it has been pinched in to a flow of 4000 barrels per day.

Sections 4 and 9, of township 16-15, Union County, seem to be of the most fertile part of the field, so far as is now known. The Imperial Oil & Gas Company's No. 2 Murphy, in section 9, a quarter of a mile southwest from the Roxana's gusher, is flowing 25,000 barrels of oil per day, 1 per cent water and 1 per cent sediment. The Gulf Refining Company's No. 14 Murphy, in the southeast quarter of section 4, a half mile northeast of the Roxana well, came in last week with an initial production of 25,000 barrels of oil per day.

Hammond Says There Will Not Be Any Immediate Shortage

Washington, D. C., April 11.—No immediate danger of an oil shortage can be seen by John Hays Hammond, mining engineer, but both the Government and the industry should give consideration to sources of supply and methods of development. In connection with the latter, it is held, legislation should be enacted to permit unit operation of large pools. These views are expressed in a letter to the Federal Oil Conservation Board, in response to its recent questionnaire dealing with an oil-conservation policy.

Over production in the past has probably run into many hundreds of millions of dollars, the noted engineer declares in discussing his proposal for unit operation, which provides for a community lease, under which the interested owners in a field pool their interests and make one lease covering the land as a whole. This method of production, it is claimed, would have a number of advantages over the present system, including greater recovery of oil from the entire area, as a result of systematic spacing of wells so that each will produce the greatest amount of oil; elimination of offset drilling; utilization of the gas pressure in the sand to lift the oil, and the possibility of adjusting production to the needs of the market, as well as permitting the development to proceed at a more even rate over a longer period of years.

The present methods followed by the Government in connection with its oil lands are criticised, it being pointed out that the wiser course would be that of conservation and of reservation to meet the requirements of the nation, rather than the present method of putting Government oil lands on the market at a time of over-supply, as has been done with the Osage Indian lands.

Mr. Hammond, however, could see no practical method by which the Government and the industry could create drill-tested reserves to be withheld from development against the will of the owners of the property. To prevent the owner from realizing upon oil on his property until, perhaps ten years later, some authority should decide the output was needed, would, in his opinion, be depriving the owner of his property in an unconstitutional manner and would hamper the pioneer work of exploration and wildcatting. The decision when to drill, he held, should be left with the owners of the property, if some means were provided for its operation as a unit.

"In my opinion, a law requiring that all owners in a given pool should develop their property through some form of unified operation, details of which would be provided by the law, would be a forward step, provided that it did not interfere with the rights of the owners collectively to decide when and on what terms they would develop it," he said. "I believe that the proper application of the community lease offers much promise. Wherever the private interests can agree among themselves on a plan of development that will preserve the principle of unit operation, the community lease requires no legislation.

"I am convinced, however, that in the typical oil pool of the Mid-Continent and California fields, where the ownership of the surface is broken up in the hands of many individuals, the community lease will seldom succeed unless it is backed by legislation. Any such principle will, of course, have to be applied in such a way as not to discourage the prospector. One wholesome result of the community lease will be to curb the activities of the reckless operator, who is very frequently a stockselling promoter."

There is no need to fear a shortage of oil in the immediate future, the board was told, it being pointed out that while we import large quantities of petroleum this would not be necessary if it were not that we also exported large quantities.

"There is no immediate danger, in my opinion, of a failure to meet this country's oil requirements," he declared. "For a number of years the United States has depended on imports of crude petroleum supplementary to the domestic production, to fulfill the requirements of the industry and I see no reason to fear that foreign supplies will not be available in sufficient quantities for an indefinite period in the future. If it were not for our large exports of refined products, the necessity for imports would be indefinitely delayed and in time of need—a defensive war, for example—exports could be prohibited."

Scientists Are Ready To Work on Petroleum

Baltimore, Md., April 10.—Eleven of America's most prominent scientists have made a survey of the needs of oil research from the standpoint of chemistry, presented their views in definite shape, and are now waiting financial sanction of leaders in the oil industry, according to a statement made by Dr. Charles H. Herty, president of the Synthetic Organic Chemical Manufacturers Association, in a recent address before the American Chemical Society here.

Dr. Herty declared that though the Industry had fallen far short of its duty—nothwithstanding the progress made and the fact that hopes of the greatest promise are justified—an appropriate financial provision for the chemical oil research, now under consideration, would inaugurate a new epoch in the Industry.

"In the past, crude oil has been subjected only to certain physical processes, chiefly fractional distillation, with a limited amount of purification by simple chemical methods. Such chemical work as has been availed of in this field (the oil industry) has been devoted largely to the control of mechanical operations," he said.

Tulsa, Okla., April 13.—W. R. McMahon has been transferred to the Shawnee territory as scout for the Prairie Oil & Gas Company. John H. Saladin, formerly at Shawnee, has taken the Kansas territory covered by McMahon in eastern Kansas.

Safety Work Has Inning At Dallas Meet

Leaders of movement to cut down accidents in oil industry make plans for expansion

By H. H. King
Staff Representative

Dallas, Texas, April 11.—Safety leaders of companies representing various branches of the petroleum industry in the Mid-Continent district attended the first semi-formal convention of the Petroleum Safety Council of the Mid-Continent Oil & Gas Association here Friday and Saturday to formulate plans for the expansion of the safety movement among workmen in fields and plants. Interest shown by those attending the meeting in the educational talks on safety subjects and open discussions indicates that the movement has taken a good foothold among companies and operators in the Mid-Continent fields, and that united efforts will be waged to curtail the annual toll of lives and injured workmen by accidents. The safety leaders in session at Dallas went on record as being favorable to the establishment of chapters of the Joseph A. Holmes Safety Association throughout the five oil states in the district, and to co-operate with state officials in safety work and preparation of safety laws.

Unsanitary hospital accomodations for sick and injured workmen in the fields will be guarded against in the future by the Petroleum Safety Council, while an unyielding campaign will be waged against "quack" doctors practicing medicine and surgery in boom fields without proper experience and education. The fly-by-night type of doctors in the boom oil fields are an existing problem for the operators, and the lives of accident victims are further jeopardized when receiving medical treatment from such irresponsible followers of the medical profession. Workmen have been known to refuse medical treatment from so-called doctors, who obtained contracts to handle sick and injured cases on the strength of a diploma from an unknown medical school, owing to malpractices.

Much Interest

Since the widespread safety movement within the oil industry is comparatively young, the safety leaders attending the two-day session at Dallas displayed keen interest in the suggestions offered by representatives of the National Safety Council, Bureau of Mines and Bureau of Explosives. The exchange of ideas and experiences regarding safety work in the fields and plants brought out during open discussions were highly educational to the individual oil company safety leader, and such discussions were encouraged by Henry W. Boggess, chairman of the Petroleum Safety Council and presiding officer at the two-day convention. Organized safety work was only recently taken up by a number of companies that had representatives at the Dallas meeting, and the eagerness of these representatives to become more efficient in their newly assigned work contributed to the success of the first safety convention of the oil industry.

The rapid growth of the Petroleum Safety Council since its organization less than one year ago was explained in the opening address of the convention by H. W. Boggess of the Sinclair Companies and chairman of the Council, and tribute was paid to D. J. Wallace of the Humble Oil & Refining Company, Houston, for being the founder of the movement to promote safety work in the Mid-Continent fields and plants.

"What we may hope to accomplish, the carrying out of our lofty purposes, ideals, and aims; our whole success in administering the worthy endeavor of safety depends most entirely upon the individual efforts of all members," stated Mr. Boggess. "You have as your safety engineer Ray E. Miller, who has been well schooled in the science of safety; his training has been broad, his knowledge is deep. To my mind, there is no doubt but what you have at your service one of the best safety experts in the whole industry.

Safety Prime Purpose

"The prime purpose of our organization is safety. We exist in the eyes of the public for the purpose of eliminating unnecessary accidents to our employes. But that is not the only thing we have to do; there are many avenues we must walk before we can reach our ultimate goal. Statistics will be of great value to us in several ways. They will prove the need of safety endeavors, and also definitely determine the causes of our accidents. By knowing the causes we will be in position to apply a remedy.

"Safety laws are gradually being forced upon us," stated Mr. Boggess, "and we must be prepared to meet them. The only way we can meet them is by statistics based upon our consolidated experiences to show just what laws are necessary and unnecessary. I know that we can easily establish the fact that the only safety laws that will be necessary are those covering things that we are already doing. The average safety laws that are generally sponsored by political agents are more harmful and detrimental to the general good of safety than is any other one thing. If nothing more, such laws create resentment on the part of employers of labor, and by reason of such resentment, there is harbored a subconscious contempt of safety in general."

Texas Contemplates Laws

During the course of a discussion regardnig the safety laws in various states in the district, attention was called by one of the members of the Council that the Labor Commissioner of Texas has formulated a safety code regulating machinery, installations of passenger and freight elevators, and requiring boiler inspections for submission to the next session of the legislature. The boiler inspection law is of interest to every oil operator and plant owner in Texas, and the Council officials arranged at the meeting to have a committee to co-operate with the State officials regarding the wording of this safety code before it reaches the body of law makers.

The use of bulletins and movies picturing preventives and results of accidents among workmen in the oil industry was explained by Ray E. Miller, director of the Council. Miller outlined the work that has been performed by the Council in recent months, and stated that bulletins are being distributed to companies interested in safety work semi-monthly to be used in posting at conspicuous points around plants, warehouses, pumping leases and drilling wells. Pictures showing the average oil field experience have proven the most popular.

Some discussion was devoted to the safety movies now being circulated in the various fields in the district, and experiments have been made regarding the value of a three-reel picture as against a six-reel film. The expense involved in making the larger size reel makes it almost prohibitive to manufacture more than one a year, while a smaller size reel permits a greater number of shows to be given over the twelve month period in each district, thereby keeping safety measures fresh in the minds of the workmen.

Need of Co-operation

"The Need of Co-operation" was the subject of a brief talk by Harry H. Smith, secretary of the Mid-Continent

(Continued on page 56.)

Making Safety Bulletins Tell the Story

Silk hosiery advertising teaches lesson in preparing posters for field safety work

By D. G. Wallace
Humble Oil and Refining Co.

SELF evidently the value of a bulletin service will depend primarily upon the bulletins themselves; then, to only a slightly less degree, upon the method of presenting the bulletins to the men we wish to reach.

The bulletin is simply an advertising medium for the commodity we are trying to place before the public. Safety is just as much a commodity as silk stockings—only that it is a little less tangible—and the effective presentation of Safety is dependent upon the same laws of advertising as silk stockings. For instance, if we can make our bulletin advertising for Safety as attractive and appealing as that of the hosiery distributors, and then have the results of the sale as conspicuous and striking, we will have reached the ultimate in this branch of safety work.

Silk Stocking Analogy

I have taken this silk stocking analogy, not because I think it has any special appeal to the members of this organization, especially our president, but because it really offers an exceptional foundation upon which to build a theoretical bulletin service. A few years ago, organized safety was almost an unknown commodity; so were silk stockings. Today, safety is far more common than it was a few years ago, but silk stockings are in universal use, due to the advertising campaign which those who were interested in the distribution of silk hose have instituted; and we will do well in developing our safety advertising to profit by the experience of the hosiery people. They are selling a commodity which has only its better appearance to popularize it. Our commodity has incalculable value from every standpoint, and some feature of this value should be incorporated in each bulletin. The hosiery people never succeeded in creating much of a demand for their commodity until they were able to follow up the sale with an attractive display of the hose in use, and it was not until the short skirts made this display possible that the demand really became universal. Now, if we are able to follow up the sale of safety with a like attractive display of our commodity in use, our success will be assured and some of our bulletins should be made up along that line—showing, for instance, the happiness which accrues when safety is made part of every day work.

How It Should Be Done

All bulletins should carry a helpful and constructive suggestion, made, as much as possible, positively rather than negatively, and should, I believe, carry their message rather by illustration and short text than by long explanation. The closer the association between the subject matter composing the bulletin and the daily vocation and avocation of the men you are trying to reach, the greater will be the value of the advertising.

Of course, you all know that bulletins can be obtained from the National Safety Council, and that our Mid-Continent Council program calls for issuance of two small, or one large bulletin each month; granting then that your bulletins will be supplied, the next problem comes in presenting them to the employees. The ideal method is the well constructed bulletin boards, so located as to reach all employees as often as possible. These boards should be of attractive design and large enough to accomodate two 9 x 12 bulletins, or one 18 x 24; in other words, at least 24 inches square in the clear and, where located outside, should be of weatherproof construction and glazed. The boards should never be filled with a miscellaneous conglomeration of bulletins, newspaper clippings, etc., but should always present a neat appearance and carry not over two or three bulletins, and these should be changed often enough to keep the boards interesting. It has not been my experience that it is necessary to resort to any spectacular methods to draw attention to the boards. If the bulletins are carefully selected and neatly mounted on an attractive board, they will maintain interest by virtue of the universal appeal of the message which they carry, and an apparent loss of interest in them should lead to a careful analysis of the bulletins which are being used.

Our problem, when it comes to the actual display of our commodity in use, is considerably more difficult than that of the hosiery people. With them, all that was necessary was to popularize the short skirt, and the curtain immediately rose, revealing a most wonderful and varied display of silk covered appendages.

Get Human Interest Bulletins

The use of our commodity seldom materializes in such tangible form as to cause pedestrians to stand on street corners for hours at a time, but nevertheless you can help the cause along considerably by shortening our skirts. For instance, we all have men in our empioy who have gone for years without an accident. Put their picture and a picture of their home, if it is attractive, in the bulletin boards with a short statement of his experience. Goggles broken while in use offer another graphic display of the value of safety. The same is true of well designed guards and practical methods of eliminating hazards such as a safety line on break-out tongs, etc. When a derrick man is saved from a fall by his belt, run his picture with a short description of the event on the bulletin board. Instances such as these and many more will suggest themselves to you will help to shorten the skirts which are at present obscuring results.

Bulletins showing graphically the beneficial results of organized safety work, based upon accident statistics, would also help greatly.

Seek to Keep Osage Drilling Suspension

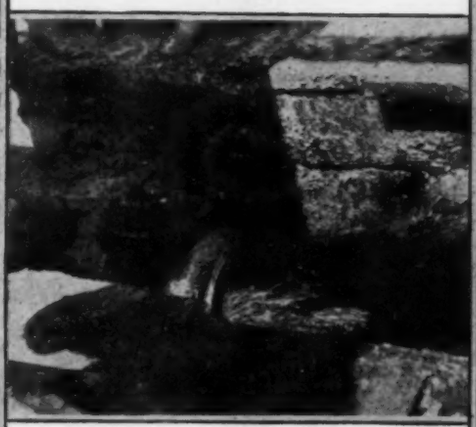
Tulsa, Okla., April 13.—Oil producers, holding leases on Osage Indian lands, will gather at Pawhuska April 17, to seek to have kept in effect the suspension of drilling obligations on Osage leases issued prior to June, 1924.

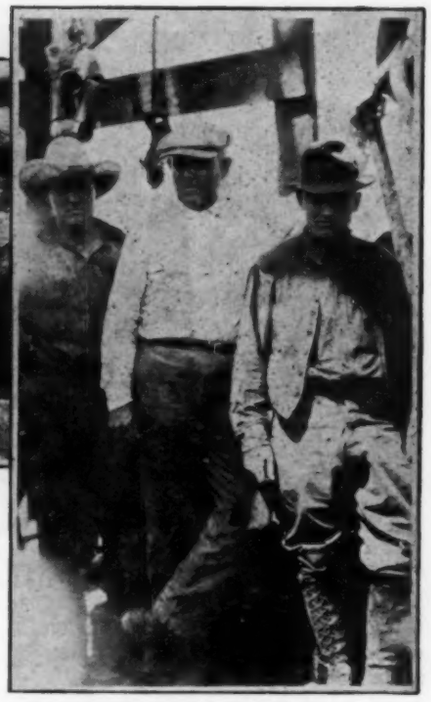
In urging attendance of members of the Osage Oil & Gas Lessees Association, Harry H. Smith, the secretary, has issued the following statement:

"I am advised that the Osage tribal council has passed a resolution requesting the superintendent of the Osage Indian agency to again lay before the commissioner of Indian affairs the matters of revoking the general suspension of drilling obligations in the Osage leases issued prior to June, 1924. The superintendent has indicated his desire to have a hearing on the matter before the council at Pawhuska some time this month and before action is taken at Washington.

"Of course leases sold in 1921 or prior thereto are not subject to further extension because the five-year primary period has expired or will expire within a year. The proposed revocation would affect leases sold in 1922, 1923 and prior to June, 1924."

Tulsa, Okla., April 13.—As of April 1, the name of the Cosden Oil & Gas Company has been dropped from the records of the concern established under that name and it will henceforth be known as the Mid-Continent Petroleum Corporation.





Left—Marland-Cranfill-Reynolds F. A. Gomillion 1 just before the drill stem was pulled. Center—the same well flowing by heads, about 3000 barrels daily. Right—Jim Harper, (center) drilling contractor on the Marland well and his driller and helper.

Water Handicap in New West Texas Field

Absence of rain is holding back drilling at Lytton Springs—Field may cover wide area

By A. R. McTee

Staff Representative

Lytton Springs, Texas, April 14. — Following the completion of the producing well near Lytton Springs March 7th, sufficient development has been done to give this new field a daily output of 4,700 barrels of crude. Work under way gives indication of altering this figure upward within the next few weeks. Up to the first of this week seven wells have been completed, all of them producers, seven are drilling, and locations for more than a dozen others have been made. Derricks are up on half the locations and four outfits are rigging up. Other locations are being made daily.

The new producing area is about three and one-half miles south and east of Lytton Springs, and is about 14 miles northeast of Lockhart, in Caldwell County, Texas. The nearest railroad station is Dale, a small town about three miles south of the field, located on the Missouri Kansas and Texas railroad. The next closest railroad town is Lockhart.

Proven Area

Proven area of the field at this time is about one mile long and a half mile wide extending from the Gulf Production Company's Beaty No. 1, the farthermost well toward the south, to McClanahan and Crouch's Brewer 1, the well which marks the northern limit, and from the Mid-Kansas Oil and Gas Company's Brewer No. 1, the farthermost well toward the east to Marland-Cranfield-Reynolds F. A. Gomillion 1, the farthermost producer on the west.

Important tests now drilling include Armstrong et al's W. H. Riddle No. 1, which if completed for a producer will mean a three-quarter mile extension to the south, and Davis et al's L. A. Cardwell 1 which is located nearly a mile east of present production.

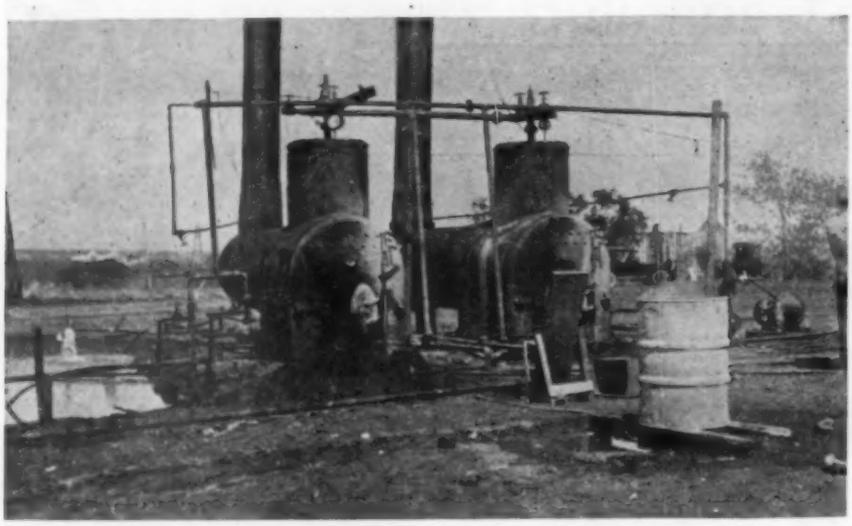
When the field was first discovered and it was found that production was coming from a formation similar to that which exists in the Thrall field, there was considerable doubt as to whether any wells of consequence would be completed. However, since the Sun Company's Gomillion 1, which came in for 2,800 barrels, and Marland-Cranfield and Reynolds' F. A. Gomillion which flowed 3000 barrels, have been completed, operators and geologists are admitting that the field looks as if it will have a big output. It is stated in the field that just as soon as an adequate water supply can be obtained there will be as many as 100 wells drilling.

Logs taken from the producers indicate a decided dip in the pay sand, or serpentine rock, toward the west. Marland's F. A. Gomillion 1 hit the rock at 1314 feet and drilled in 105 feet, showing this well to be the lowest on the structure. Story and Lefevre's discovery well got the rock at 1252 feet and was drilled in about 70 feet. Crouch and McClanahan's test cored the serpentine at 1187 feet and the Mid-Kansas well picked up this formation at 1150 feet. The Sun Company's A. H. Gomillion No. 2 showed pay at 1190

LYTTON SPRINGS COMPLETIONS

Well—	Initial Production	Present Production	Depth
Story & Lefevre's Brewer No. 1	130	90	1252
McClanahan & Crouch's Brewer No. 1	250	200	1255
Marland-Cranfield-Reynolds' F. A. Gomillion No. 1	3000	3000	1419
Mid-Kansas Oil & Gas Co.'s Brewer No. 1.	200	200	1257
Gulf Production Company's Beaty No. 1..	125	250	1202
The Sun Oil Company's A. H. Gomillion 1..	450	500	1190
A. H. Gomillion 2..	2800	500	1276

Drilling Wells—
Story & Lefevre's Brewer No. 2.
Gulf Production Company's Beaty No. 2.
Mid-Kansas Oil & Gas Co.'s Brewer No. 2.
Armstrong et al's W. H. Riddle No. 1.
Davis et al's Cardwell No. 1.



All outfits operating at Lytton Springs are rigged up with two boilers as shown above. One is for auxiliary power in case of emergency.

feet. With the exception of Marland's well, these producers are in practically a straight line running from north to south. The Marland well, about a half mile west, the deepest well in the field, is drilled deeper into the pay, and made the biggest initial flow.

At this time it is impossible to know anything about how big an area the pay formation covers. In describing the Thrall field, Dr. J. A. Udden, in a paper which was printed in the Bulletin of the American Association of Petroleum Geologists, says: "From a study of nearly all the well records from this field it is evident that the body of this rock underlies something like a square mile of territory. In one place the rock reaches the thickness of several hundred feet. Its average thickness in the center of the field is about 60 feet, and from this point it thins out in three directions to a feather edge."

Larger Than Thrall

That the area at Lytton Springs is much larger than at Thrall is almost certain. The rock has already been drilled into 105 feet and no one has yet drilled through it in any well.

A remarkable fact about the field at Lytton Springs is that not a single water sand has been found in drilling. This is looked upon as a distinct advantage since it eliminates all danger of the field ever being flooded. At the same time, it is proving a handicap. Drilling water is so scarce that not more than five or six rigs have been able to run.

Gas pressure in the field is week. All of the wells completed so far have flowed of their own accord, but the pressure is low and there is strong indication that within a short time the most of the wells will have to be put on the beam.

Future development of the field depends to a great extent upon the water supply. Up to the first part of this week the amount available was extremely limited. The only source of water was Lytton Springs, and the name of this village belies itself. The springs are few and far between; in fact, there are no springs to be found. The water comes from wells dug to a depth of 25 or 30 feet. These wells are dug and water seeps into them, is then pumped into storage tanks and then pumped to the field. Three of these wells, or pits, have been dug, at an approximate cost of $20,000, but their maximum output is below 3,500 barrels daily. This water is piped to the field through two two-inch lines, owned by private companies.

Water From Lockhart

It is hoped that the water situation will be taken care of by the Flanigan Water Company which is now laying a four-inch water line from near Lockhart to the field. The source of this water is said to be unlimited and the pumping plant will be able to send 1500 barrels per hour through the line. A large tank is being built on the Gulf Production Company's Beaty lease. Water will be pumped into this tank and then flowed by gravity to operators throughout the field.

Practically every company operating at Lytton Springs has put dams across nearby ravines to catch water that might be provided by a rain, and if a big rain should fall, enough water would be caught to last for several days.

The line from Lockhart was to have been completed about the middle of this week, and drilling is expected to materially increase as soon as water is started through the line.

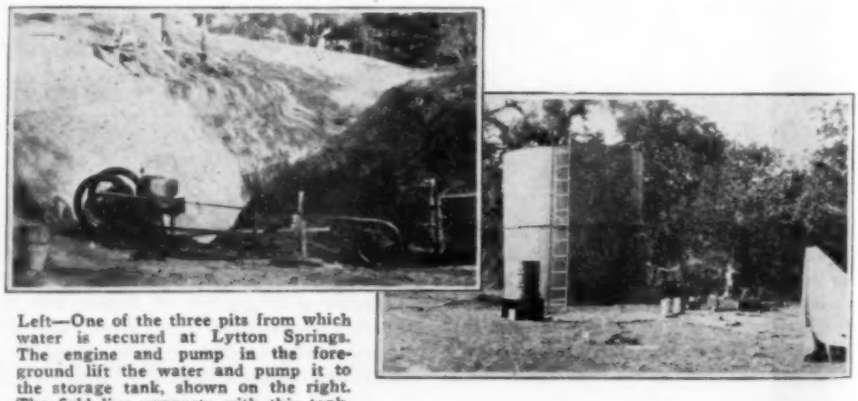
There is plenty of storage in the field to take care of more than twice the amount of oil that is now being produced. Field tanks with a combined capacity of 11,600 barrels are up on various leases; Story and Lefevre have two 100-barrel and one 1000-barrel tanks; the Gulf Production Company has two 1000-barrel tanks; the Sun Oil Company has a battery of four 1000-barrel tanks; Marland has one 1000-barrel tank; Crouch and McClanahan have one 1000-barrel tank, and the Mid-Kansas Oil & Gas Company, two 250-barrel and two 1000-barrel tanks. In the case of the big well of the Sun Company and Marland, each well is flowing into an earthen pit and the oil is being pumped from there into field storage.

Loading Rack at Dale

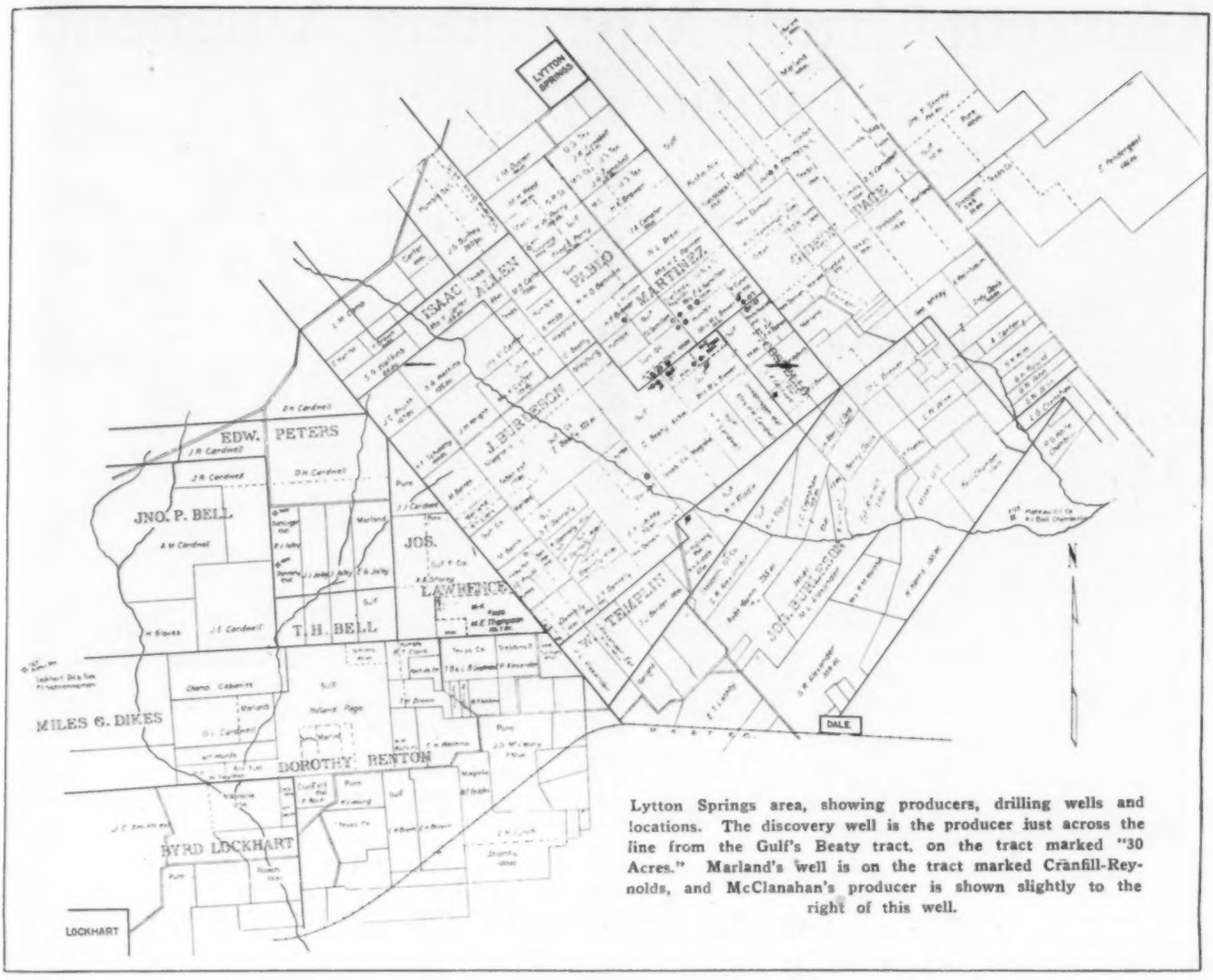
The E-K Pipe Line Company is taking all oil being transported from the field at this time. This company has a three-inch line from the field to Dale where a loading rack is located. An average of 2800 barrels of crude has been sent out from Dale for several days. Present facilities of the E-K Pipe Line Company are being doubled in capacity and plans are being made to enlarge the facilities as production increases.

In addition to the E-K line, the Magnolia Petroleum Company has begun work on a six-inch line from its tank farm at Luling, to the Lytton Springs field. This line will be 20 miles long and will probably be completed by May 1. In the meantime, Magnolia is erecting five 1000-barrel tanks in the field to take care of its customers until the line is finished.

This pipe line will have a carrying capacity of 10,000 barrels daily and will not feed into Magnolia's eight-inch welded line connecting Luling with its Beaumont refinery, but will empty into the Luling tank farm. The wide difference in grades of crudes from the Lytton Springs and Luling



Left—One of the three pits from which water is secured at Lytton Springs. The engine and pump in the foreground lift the water and pump it to the storage tank, shown on the right. The field line connects with this tank.



Lytton Springs area, showing producers, drilling wells and locations. The discovery well is the producer just across the line from the Gulf's Beaty tract, on the tract marked "30 Acres." Marland's well is on the tract marked Cranfill-Reynolds, and McClanahan's producer is shown slightly to the right of this well.

fields is responsible for the separation policy of Magnolia.

Plans are being made by the Grayburg Oil Company to extend its line from Luling to the Lytton Springs field, but no definite announcement has yet been made by that company. It is understood that surveying for the line will begin at once.

The Gulf Production Company is said to be contemplating a pipe line into the field, also, if production continues to increase.

High Gravity

The high gravity of crude produced in the Lytton Springs field (39.5) with its gasoline content, makes it a highly desirable oil and no trouble is encountered in disposing of production. The Magnolia Petroleum Company has adopted the same price schedule as that company has at Mexia-Corsicana, that is, $2.00 per barrel. Most of the crude sold up to the beginning of this week has brought $2.00, though some production brought as low as $1.50 per barrel, a few weeks ago.

General conditions in the field are good; roads are in fair condition now, but a heavy rain would make them practically impassable. A small creek divides the proven area nearly in half, but this creek is dry.

The general topography of the field is rolling, the country being broken by low hills.

Drilling Costs

Costs of operating are about as follows: turnkey jobs are being taken for $6,000 where the contractor furnishes everything but flow tanks. Where drilling is contracted for by the foot, a price of $3.50 is paid and the contractor furnishes fuel and water. Water costs approximately $25.00 per day, and fuel oil averages $1.90 per barrel. Derricks cost on an average of $550; the 87-foot type is used. Haulers are getting $4.50 per ton for hauling materials.

Time required for completing wells varies, but due to the shallow depth at which production is found, wells can be drilled quickly. Usually from eight to ten days are required, though in a few instances much better time has been made.

Drilling is considered easy. The formations are soft including the pay itself and not more than three fish-tail bits are necessary to complete a well. Casing is set on chalky shale.

The trend of production as indicated by completions to date is toward the northwest. The discovery well is among the small completions, and is as high up on the structure as any well brought in so far. Marland's well is the lowest on structure and is the biggest producer.

Acreage in the field is held in comparatively small tracts. Practically all the large companies are represented with a good many small independents sandwiched in between. Deals in leases have brought handsome prices, as much as $10,000 per acre being paid since Marland's well came in. Prior to the bringing in of this well, considerable land changed hands for $1,000 per acre, and deals were made shortly after the discovery well was completed, involving acreage that sold as low as $500.

Lost Keys Found

Los Angeles, Calif., April 11.—Regan Forge and Engineering Co., Box 1058, Los Angeles, Calif., has a bunch of keys with a Regan Forge key marker No. 385, which was mailed to Regan Forge by Exchange Bank, Natchitoches, La. This key ring and number was given out by the company, but for some reason the name of the man receiving the key ring was not secured. If the owner will write Regan Forge, he will be sent his key ring and keys.

Current Crude Movement Augments Firmer Market

Distress condition is relieved with large crude purchase and gasoline order

By Spencer W. Robinson

(Tulsa, Okla., April 14.—Standard of New Jersey entered to Mid-Continent refined market today in an effort to buy upwards of ten million gallons of gasoline, export specifications, product will likely move by tank cars to Baton Rouge terminal of Standard of Louisiana to be loaded on tankers.)

DESPITE reductions in crude oil in other sections of the country, the light oil area of the Mid-Continent may be said to be firmer if anything than was the case thirty days ago.

The situation in the Appalachian region in the East also is steadier although there is more oil being offered than at any time this year, a condition that will tend to ultimately bolster up the price structure, paradoxical as this may seem.

Active Demand

In the Rocky Mountain region crude is in active demand with production on the increase due largely to the advent of open weather and a more extended development program throughout the section. In all probability the crude output will continue to gain as summer advances. There is little if any uneasiness felt in the light oil area of the Mid-Continent as to the increasing production from the new deep sand in Smackover in Arkansas or from the potentialities of the new deep pay in the old Garber pool in Garfield County, Oklahoma, at this time.

The Arkansas increase will, and is having its effect on the fuel oil market but fortunately this comes at a season of the year when gasoline again is assuming the greater part of the refiners' financial burden. Had this influx of heavy oil come in the winter months there would have been a different story to tell. The Garber deep sand pay uncovered by Sinclair undoubtedly has potentialities of considerable import to the producer of high gravity oil, but this development is necessarily slow and fortunately is closely held by a few of the major companies including Roxana Petroleum, Marland and others. It is estimated that fully four months' time will be required to complete a well to the deep sand and the average time likely will be longer than that. This may be taken to indicate that whatever comes of this development, will not exert an appreciable influence on the light oil market until this fall or certainly until late summer.

The fact that the production from high gravity areas in the Mid-Continent and elsewhere is declining steadily would discount much of the menace that Garber might become. In the East producers are disposing of their production currently as it is being run. This is what the purchasing agencies have been striving for and storage facilities in that territory are being relieved.

Aside from slight revisions in certain grades that may be made on an equalization basis there is every prospect of the Appalachian price structure remaining comparatively firm throughout the summer months.

Big Crude Purchase

The crude market has regained a sound footing throughout the North Texas district by reason of the recent action of The Texas Pipe Line Company in buying up approximately 700,000 barrels of crude representing balances held in its lines by producers and independent refiners, as well as spot oil held in private storage. The Texas Company has been acquiring this crude at posted prices for several weeks, or more, in quantities ranging from several hundred barrels to more than 100,000 barrels, and the effect of the removal of all distress crude from the market did not become noticeable until this past week. The market for spot crude has shown very little activity since declining prices on refined products forced independent refiners to curtail their current purchases more than six weeks ago, and a serious break in the market was threatened by offers of crude below posted prices when The Texas Company began taking distress crude off the hands of producers and small plant owners.

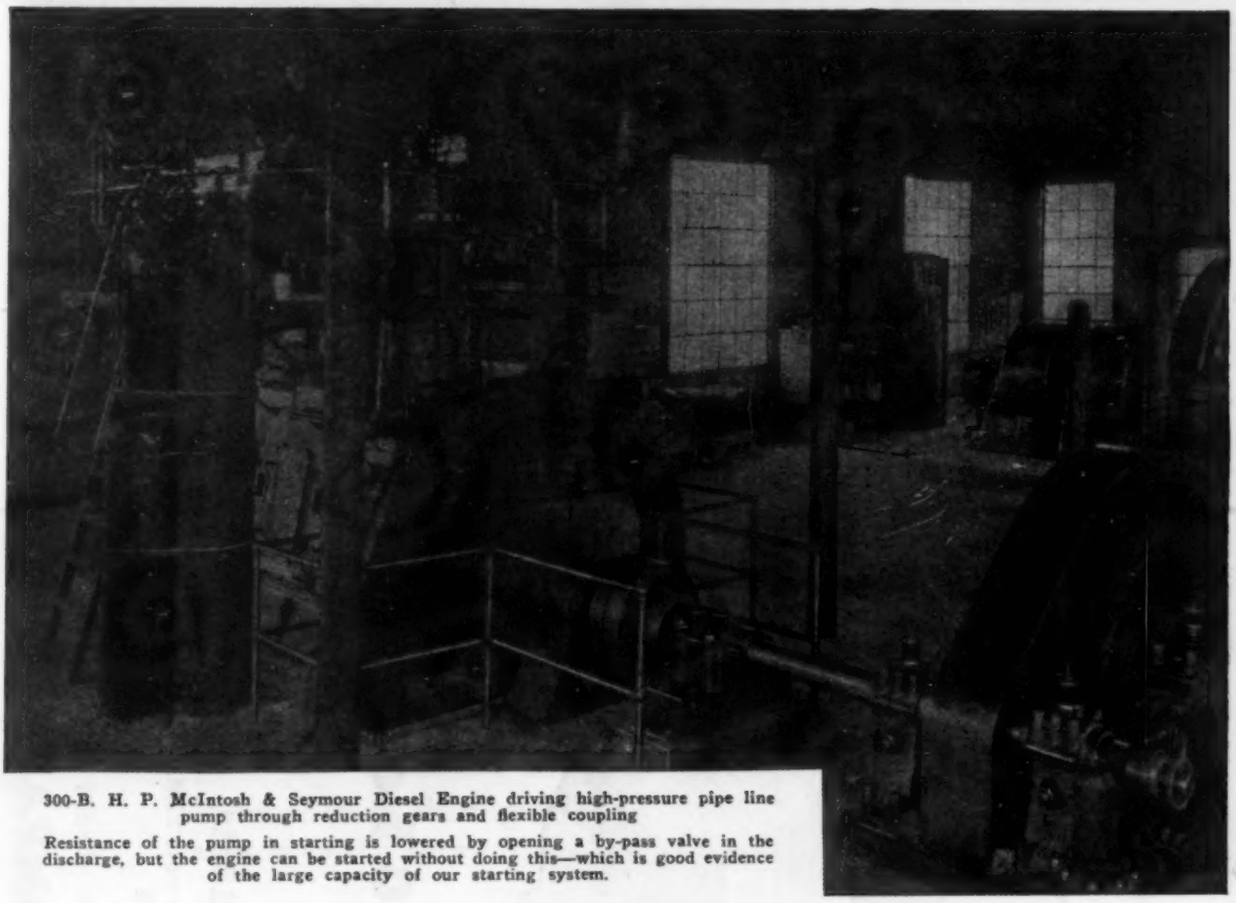
Has Much Bearing

The relief from surplus crude given independent refiners by The Texas Company has more bearing on the crude and refined market than the placing of large orders of gasoline for immediate shipment, as the manufacture and piling up of additional stocks of gasoline in the country delays the return of a stable refined market. The long period of depression and low prices in the refined market has strained the financial status of the small plant owners to the breaking point, and they have been forced to keep their crude running to stills and take whatever price available for refined products as a means of raising cash to meet current crude obligations and interest on loans from banks. Since the majority of the small plant owners are taking a loss ranging from 15 to 60 cents per barrel on all crude run through their stills and sold at present refined prices, the offer to buy up all the surplus crude by The Texas Company brought forth a deluge of requests.

The Texas Pipe Line Company serves as common carrier in gathering, transporting and delivering crude from the field to the majority of the plants in North Texas, and during dull periods in the refined market, these plant owners allow their purchased crude to accumulate in the lines. Producers catering to spot market customers also use this line more so than any other system in the district, and after a certain period of time The Texas Pipe Line Company charges three cents per barrel per month storage. Crude balances climbed to a high level late in March, and caused The Texas Company to serve notice on the refiners and producers to take out their balances. This action resulted in The Texas Company buying up most of the crude balances in its lines at the posted price. Although the owners of these crude balances had to bear all accumulated storage charges against the crude, the storage fee falls short in equalling the loss to be taken in converting the crude into the finished product at prevailing prices. Some of the refiners sold crude that cost them a 25c premium above the market price rather than to run the oil through their plants at a similar loss, or more, and add to the gasoline stocks causing the unhealthy condition of the refined market.

Declining production and loss of connections in Archer County and other light oil areas is largely responsible for The Texas Company seeking a reserve supply of high gravity crude for its summer gasoline demand, while several weeks ago this company purchased more than a half million barrels of storage oil, including steel tanks, from the Tidal Oil Company in the Corsicana-Powell field. The removal of all surplus spot and storage oil in the North Texas district by The Texas Company restores strength to the local crude market, and sufficient demand exists to absorb current production, with no flush in sight, although premiums on spot oil are not

(Continued on page 56.)



300-B. H. P. McIntosh & Seymour Diesel Engine driving high-pressure pipe line pump through reduction gears and flexible coupling

Resistance of the pump in starting is lowered by opening a by-pass valve in the discharge, but the engine can be started without doing this—which is good evidence of the large capacity of our starting system.

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THIS Diesel engine and its pump has superseded a triple-expansion condensing crank-and-flywheel type pumping engine which received its steam from oil-fired boilers.

The result displayed in the headline more than justified the change, but in addition there is a marked decrease in maintenance expense and the plant has been greatly simplified and made more reliable.

Diesel engine power is ideal for driving pumps for these good reasons: (1) Pump speed can be regulated for delivery at either constant volume or constant pressure as desired; (2) Service interruptions are practically unknown; (3) The benefits of low operating costs as to fuel, attendance and maintenance are fully obtainable in either steady of intermittent service. In the latter instance, all standby loss is avoided while the pump is idle and full capacity is available within two minutes of starting.

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Say you saw it in The Oil Weekly

Where used material is received for reclamation at the Union Oil Company's shop

Old Equipment—Replace Or Restore It?

In most cases damaged or used field material is consigned to the scrap heap—Not so with this company

By W. E. Green
Staff Representative

RECLAIMING equipment is one of the big saving points of the Union Oil Company of California. In the company's salvage or reclamation shops and yards at Brea, in Orange County, all kinds of used equipment is worked over and put into service again at a cost of approximately 25 per cent of new stuff.

The idea of a reclamation department is traced to Harry E. Becker, former district superintendent for the Union Company, who started the work several years ago. From the first, it was found to be less expensive to reclaim old material than to buy new, in a majority of instances, and the reclamation department showed sufficient profit to impress its importance on officials of the company. Appropriations for this department are made whenever needed.

Use Skilled Mechanics

Dozens of skileld mechanics are busy in the shops and in the yards, reclaiming old material, no longer fit for service in its present condition. A large truck will pull into the yard with a dilapidated oil field boiler; this boiler is placed on trucks in the shed, the sides are pounded to remove the flakes of rust, and the boiler is thoroughly cleaned. Tubes are then replaced, other repairs made where needed, and finally a coat of paint is applied. After the final inspection an oil field boiler that looks like new and that is said to be about as good as new, is ready for active service. Total cost of repairing the boiler is about 25 per cent of what a new one would cost.

When pipe reaches the shops, it is cleaned and sent over to the pipe straightening machine. Here the pipe is made as straight as when it came from the mill. If the threads have been damaged, new ones are put on, and whatever else necessary is done to put the pipe in first class condition.

Two men operating the machine shown in the illustration, reclaimed 6076 joints of pipe during the last nine months of 1924. This is a daily average of 28 joints. Of the total pipe reclaimed, 4566 joints were 2-inch, 2½-inch and 3-inch stuff, while 1443 joints were 4-inch, 5-inch and 6 inch. This included line, drill pipe and tubing. The rest was casing and piping over 6-inch. During this same time this crew worked over drill stems, overshots and bailers, as occasion required. It has been conservatively estimated that the pipe, etc., run through this one machine would have cost about $10,000 if purchased new.

Fittings Get Special Attention

Another interesting part of the shop is the corner where small fittings are reclaimed. Special attention is given to brass fittings which have not been ruined beyond repair. The shop is equipped with every convenience and every tool or machine needed for such work. If a visitor looks over the fittings that have been reclaimed and compares them with new ones, he can hardly distinguish between them. The work of reclaiming is thorough, and every man takes an interest in seeing that the work is done well.

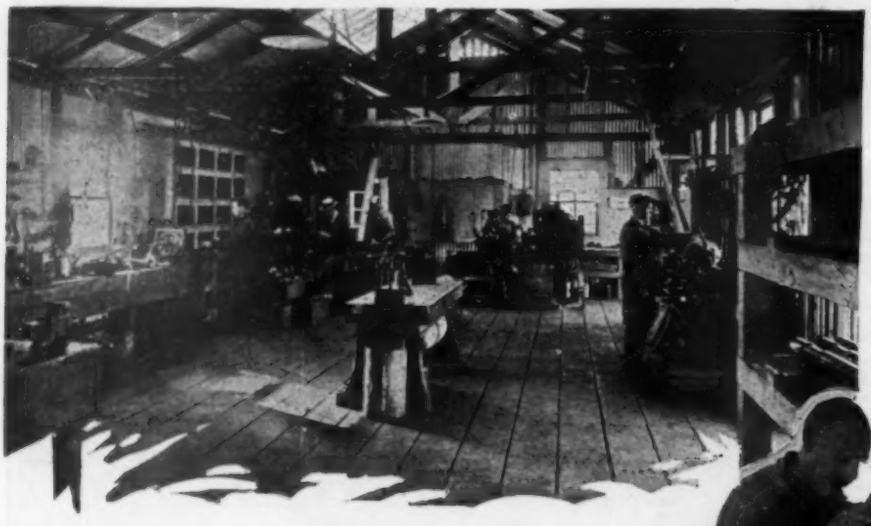
An accompanying illustration shows how large fittings are lowered into the Oakite bath for removal of dirt. Bolts are then removed, the fittings gone over carefully and made to fit exactly as new, and then a coat of paint is put on.

Painting

Painting reclaimed equipment is important; no field man likes to use material that has a second hand appearance, and reclaimed articles are made to look as nearly like new as possible.

Slush pumps that have gone through the reclamation department are ready for hard use and look like new when returned to the lease.

In the receiving yard, illustrated also, can be seen large timbers, crooked pipe of all sizes, small collars, and most any kind of field equipment one can call to mind. If used at all about



Views of various steps in reclaiming used field material at the Union Oil Company's Brea reclamation plant. Interior of shop; restoring small fittings; straightening drill stem and giving large valves an oakite bath.

an oil well, in the pipe line department or in the refinery, about 90 out of 100 times, the salvage department can restore it. Of course sometimes a large piece of equipment is too much for the department to handle, and in such a case the company's large machine shops do the work.

Gives Credit

After material has been restored, it is placed in the warehouse and is ready for the next call. The lease securing the restored article is charged 75 per cent of the cost of a new article. The lease sending in equipment is credited with the same amount. The used or properly restored stuff helps the lease foreman to hold down his expenses and to make good at the same time. The old fear that restored equipment would not stand up like new, has largely been replaced with confidence in equipment turned out by the company's salvage department.

Reclaimed articles are given severe tests before being given the coat of paint. If not O. K. to the last analysis, the weak spot is found before the article goes back on duty.

Working barrels are carefully worked over.

If it is found that a piece of equipment, tool, or appliance is not worth working over for further service, it is thrown into a corner of the yard and when the accumulation warrants, a car load of junk is sold at junk prices. Even that which is worthless from the company's standpoint is made to bring in something.

A. P. I. Approves Rotary Pump Specifications

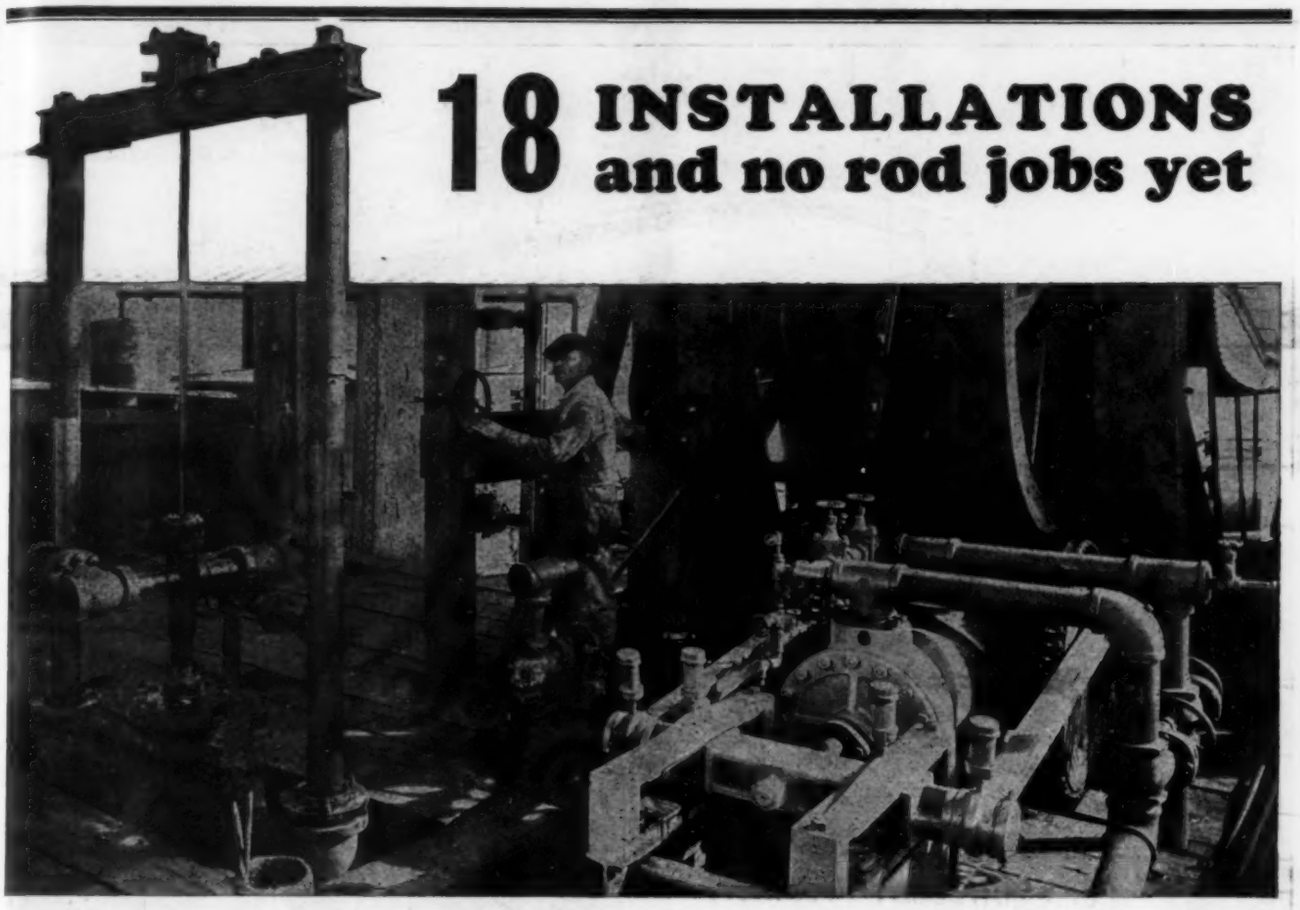
Tulsa, Okla., April 13.—Approval of the rotary pump specification of the A. P. I. committee headed by A. B. Steen of the Texas Company was given by the Mid-Continent sub-committee on the subject at a meeting held here April 11 in the offices of Earnest Nicholas, general superintendent of the Texas Company.

The Mid-Continent sub-committee, however, declined to approve the recommendations of other sub-committees on the tool joint specification. Other sub-committees have approved the Acme thread on tool joints.

The Mid-Continent body held to the proposition that the rotary tool joint and the joint for the fish tail bit should be identical in thread. This committee looks with favor on the V shape thread on the tool joint.

Tulsa, Okla., April 13.—L. C. Camblin, purchasing agent for the Waite Phillips Company, has been named on the pump standardization committee of the American Petroleum Institute. H. P. Porter, production engineer of the Gypsy Oil Company is chairman of the committee.

A. B. Stillwell of Tulsa, Mid-Continent manager for the Guiberson Corporation of Dallas, Texas, is on a tour of the Mexican fields in the interest of company business.



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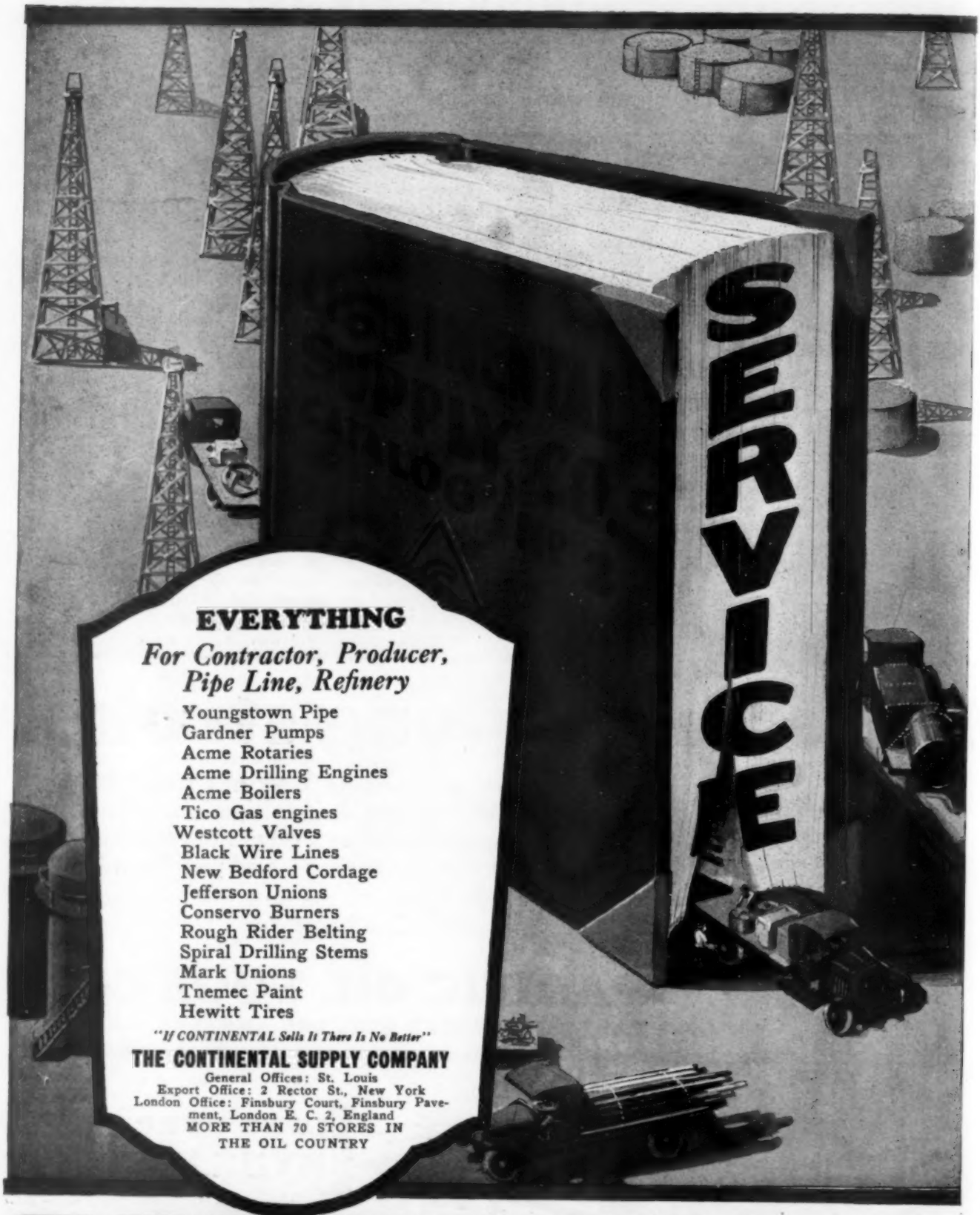

CONTINENTAL

Say you saw it in The Oil Weekly

Increasing Production By Increasing Diameter of Wells

An address before the annual meeting of the American Institute of Mining and Metallurgical Engineers in New York

*By Lester C. Uren**
Berkeley, California

Beginning with theoretical concepts of oil drainage, this paper demonstrates that the flow of petroleum into a well from a stratum of oil-saturated sand of uniform texture increases with the diameter of the well. This conclusion is supported by experimental evidence. It appears that if a well may be reamed to a diameter of 20 feet within the oil sand, its production will be approximately doubled. A novel method is proposed for forming and supporting a cavity of such proportions within the oil-producing stratum.

PETROLEUM occurs, in nature, as a fluid saturating the pore spaces between the grains of porous rocks or aggregations of rock particles such as sand, sandstone, conglomerate, shale, limestone, etc. The oil, under the influence of gas pressure, hydrostatic pressure, gravity, earth pressure, and, perhaps, other natural forces, is caused to flow through the porous "reservoir rock" into wells penetrating the stratum in which the oil occurs. The principal moving force is the pressure of dissolved or occluded natural gas within the oil, though this force is assisted by gravity and by the hydrostatic or buoyant pressure of ground water about the edges of the "pool." The wells, providing outlets to the surface, are centers of reduced pressure and the flow of rock fluids into a particular well is usually an expression of the difference in pressure existing between the space within the well and that of the stored oil within the reservoir rock. The greater this differential pressure, the more rapidly will oil flow from the source rock into the well. Opposing movement of the oil from the reservoir rock into the well are certain natural forces related to the rock structure, such as pore friction and capillarity, and certain others related to the physical properties of the oil, such as viscosity and adhesion. The differential pressure between the well and the boundaries of the area drained by it must be sufficient to overcome the forces opposing flow if there is to be movement of oil into the well. If by any device the resistance to movement of the oil may be reduced, the oil will flow into the well at a more rapid rate and the effective area of drainage will be increased.

Relation of Variables Governing Flow of Liquids Through Sands

It has been shown by King[1] that both water and oil flowing at low velocities through sands follow, in a general way, the laws of viscous flow, a condition which in the case of flow through a cylindrical tube, is expressed by the formula of Poiseuille:

$$P = \frac{0.000668\ Z\ L\ V}{D^2 S}, \qquad (1)$$

in which P= pressure drop, in pounds per square inch; Z= absolute viscosity of oil in centipoises; L = length of tube, in feet; V = average linear velocity of flow, in feet per second; S = specific gravity of fluid; and D = inside diameter of tube, in inches.

According to this formula, the pressure loss varies directly with the velocity and inversely with the area of cross-section through which flow occurs; that is, doubling the effective pressure doubles the rate of flow, or, assuming that the velocity remains constant, doubling the cross-sectional flow area reduces the pressure loss one-half.

A horizontal, wedge-shaped segment of drainage area of a well is shown in Fig. 1. If it is assumed that the well is 6 in. in diameter and that it is effective in drawing oil from a circular area 600 ft. in diameter with the well as a center, by substitution in the formula, it will be found that a large part of the energy latent within the oil is expended in moving it through the sand within 10 feet of the well. This is because of the great constriction in cross-sectional area of the segment as the well is approached. Thus, in Fig. 1, if the area ABCD cut by the segment on the wall of the 6-inch well is 1 inch square, the same segment will intercept 40 square inches (EFGH) on the wall of a concentric 20-foot well. Hence the rate of flow of oil through section ABCD is forty times that through section EFGH and the pressure loss per linear unit of travel is correspondingly great. This assumes that all of the oil passing ABCD also passes EFGH, which is not, of course, exactly true as the volume of flow increases as the well is approached. At section IJKL, on the circumference of the drainage area, the flow is theoretically zero and the area is 1200 square inches. Because of the extremely low velocities in the outer half of the drainage area, the pressure loss is almost

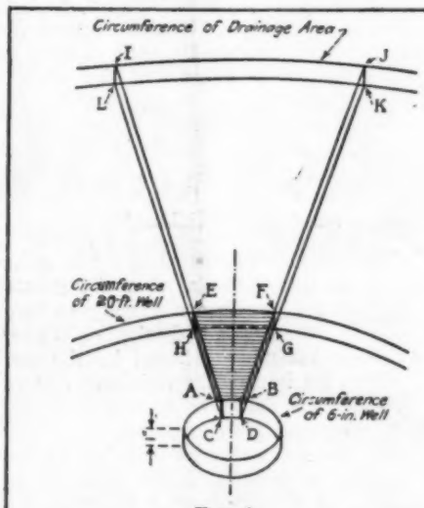

Fig. 1.

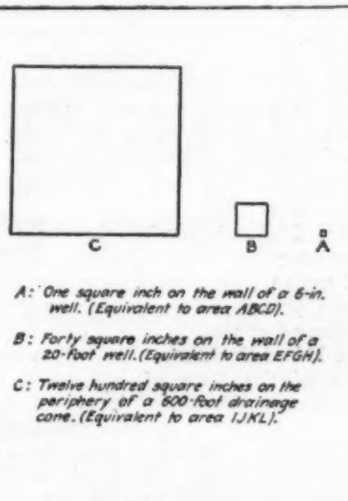
C
B
A
A: One square inch on the wall of a 6-in. well. (Equivalent to area ABCD).
B: Forty square inches on the wall of a 20-foot well. (Equivalent to area EFGH).
C: Twelve hundred square inches on the periphery of a 600-foot drainage cone. (Equivalent to area IJKL).

Fig. 2.

FIG. 1.—HORIZONTAL, WEDGE-SHAPED SEGMENT OF DRAINAGE AREA OF A WELL, SHOWING INCREASE IN CROSS-SECTIONAL AREA AVAILABLE FOR OIL FLOW RESULTING FROM INCREASE IN DIAMETER OF WELL.

FIG. 2.—RELATIVE CROSS-SECTIONS OF DRAINAGE WEDGE 3 IN., 10 FT., AND 300 FT., FROM AXIS OF WELL.

*Associate Professor of Petroleum Engineering, University of California. Copyright, 1924, by the American Institute of Mining and Metallurgical Engineers, Inc.

[1] F. H. King: Principles and Conditions of Movements of Ground Water. U. S. Geological Sur. 19th. Ann. Rept., part 2 (1897-98).

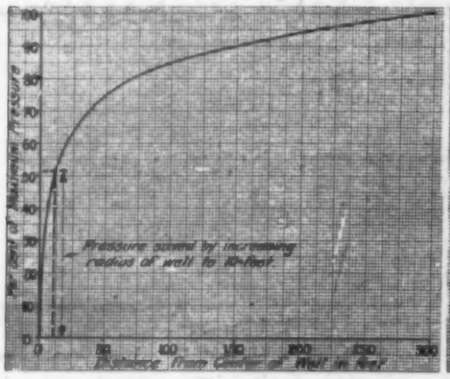

FIG. 3.

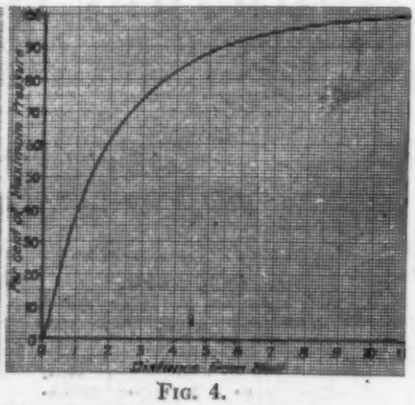

FIG. 4.

Fig. 3—Pressure loss in moving oil through sand into a well; data computed from formula 4. An effective drainage radius of 300 feet and a diameter of 6 inches are assumed for well.
Fig. 4—Pressure loss in moving water through sand to an outlet 47 inches below fluid surface; unit of distance, 12 inches. Data obtained by experimental methods. After F. H. King in 19th Annual Report, U. S. Geological Survey.

negligible. In Fig. 2, squares equivalent to the cross-sectional areas ABCD, EFGH, and IJKL are drawn to scale to indicate the relative size of the spaces through which the oil must move.

It is apparent that enlarging the well will increase the effective area through which oil enters, and as the pressure behind or within the oil is unaltered, the velocity of flow will increase and a larger quantity of fluid will enter the well. The result is analogous to that obtained by enlarging the diameter of a pipe through which water flows. If the effective pressure remains constant, the larger pipe will deliver a greater quantity of fluid.

In applying the principle of the Poiseuille formula, Slichter[2] has computed the following equation for the flow of liquids through cylindrical tubes filled with sand:

$$Q = \frac{0.2012pd^2s}{ulK} \qquad (2)$$

in which Q = quantity of fluid flowing in cubic feet per minute; p = pressure drop, expressed in feet of water; s= area of cross-section of tube, in square feet; d = "effective diameter" of sand grains in millimeters; u = absolute viscosity of fluid, in poises; l = length of drainage channel, in feet; and K = constant, depending on the porosity of sand.

From Slichter's results, the constant K varies greatly with the size of the sand grains. If o represents the percentage porosity, K will vary as some function of o; that is, $K = C_1 o^x$. From Table III of Slichter's "Field Measurements of the Rate of Movement of Underground Waters,"[3] it is possible to compute the value of the exponent for o, which enables us to write equation (2) as follows:

$$Q = \frac{Cpd^2so^{3.3}}{ul} \qquad (3)$$

in which C = constant equivalent to $0.2012 \times C_1$. If L is taken as the radius of the drainage area of a well, r the radius of the well, and t the thickness of the oil sand from which it produces (all expressed in feet) we may integrate equation (3) to find an expression representing the pressure loss suffered by the oil in flowing into a well from the surrounding drainage area. The result will be:

$$P = C \log_{10}\frac{L}{r} \frac{Qu}{td^2o^{2.3}} \qquad (4)$$

in which C is a constant differing from that in equation (3). Experimental data indicate that the value of C in equation (4) will be a quantity between 12,000 and 20,000.[4]

If we adopt values for p, u, t, d, o, and L in equation (4) and compute the flow into two wells, one having a diameter of 6 inches and the other a diameter of 20 feet, in a given time the 20 foot well will produce approximately 2.1 times a much oil as the 6-inch well (see Table 1). This result accords in a general way, with conclusions reached by Slichter.[5]

It can be demonstrated, by substitution in this formula, that the greater part of the pressure necessary to force the oil into a well is dissipated in overcoming resistance offered by the sand within its immediate vicinity. For example, the data for the curve in Fig. 3, computed from equation (4), shows that for a 6-inch well draining an area having a radius of 300 feet, 52 per cent. of the pressure is consumed in moving the oil through the zone within a radius of 10 feet of the axis of the well, Fig. 4, plotted from results obtained by King,[6] shows a very similar graph representing the pressure loss in water-saturated sand in process of drainage. These values represent actual pressures recorded under experimental conditions.

Table 1.—Computed Variation in Productivity of Wells of Different Diameters

Radius of Well, Feet	Assumed Radius of Drainage 300 Feet Per Cent. Productivity	150 Feet
0.25	100	100
0.50	111	112
1.00	125	128
5.00	175	190
10.00	212	236
15.00	241	278
20.00	265	316

Experimental Evidence Demonstrating Advantage of Larger Diameter Well

To demonstrate in a quantitative way the advantage of the larger diameter well in securing a more rapid rate of production, the writer performed a small-scale laboratory test in a rectangular box filled with oil-saturated sand. One side of the box used (Fig. 5) is of plate glass so that the condition of the sand, the position of the drainage lines, and the oil surfaces are apparent at all times. Openings through the ends of the box provide connections with oil reservoirs A and B, which are kept full of oil. The sand, once saturated with oil, is maintained in this condition during pumping operation by oil flowing in from the reservoirs to replace that pumped out. The sand used was accurately sized material, 30 to 40-mesh. The oil with which the sand was saturated was a San Joaquin Valley, Calif., crude of about 19° Be. gravity. The two "wells" used in pumping oil from the sand are shown at C and D; their dimensions are shown in Fig. 6. Both were immersed in the sand to 9 inches below the top surface. A vacuum pump P, connected with heavy rubber tubing through an oil receiver R and a manifold of ¼-inch pipe with suitable valve control, was used to draw out as much oil as would enter the wells through the screens. Manipulation of the valves U and V permitted the application of suction to each well in turn, under conditions that remained practically constant. Each well was pumped in turn for ½-hour intervals, the volume of oil entering the receiving flask R being carefully measured in a graduated cylinder. The 0.7-inch well produced at an average rate of 133 c.c. per min., while the 1.7-inch well averaged 170 c.c. per minute.

Beneficial Effects Resulting From Increase in Diameter of Wells

From the foregoing mathematical and experimental data, it is evident that the productivity of a well will increase with increased diameter, and if by any practical means the diameter of the well within the oil sand could be

[2] C. S. Slichter: Theoretical Investigation of the Motion of Ground Waters. U. S. Geol. Sur. 19th Ann. Rept., part 2 (1897-98).

[3] U. S. Geol. Sur. Water Supply Paper 67.

[4] From thesis of R. S. McIntyre, "A Study of Factors Influencing the Underground Drainage of Oil Sands," University of California, 1924, conducted under supervision of author.

[5] Op. cit., 362, 377.

[6] Op. cit., 264.

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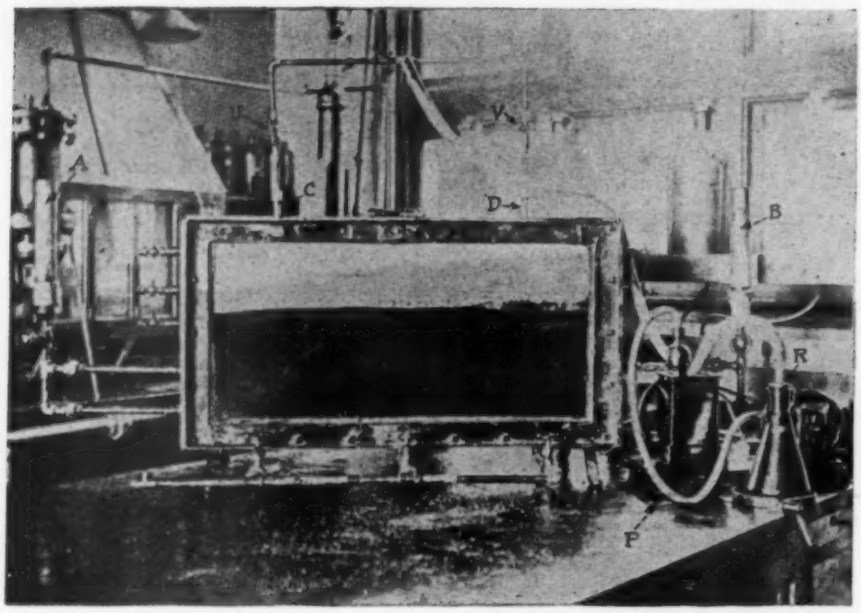


Fig. 5—Glass Walled Box, showing arrangements for pumping oil from sands under vacuum.

increased from 6 inches to, say, 20 feet, the gas and hydrostatic pressure would be effective in at least doubling the productivity of the well. This increase in the rate of production would also increase the radius of drainage of the well and hence the gross production, for the reduced resistance to flow would result in the movement of oil over greater distances. It must be remembered in this connection, that the area drained by a well is not constant but decreases as the field pressure declines. While oil might move toward the well over a drainage area 600 feet in diameter during the first year of productivity, when the field pressure is high, five years later, when the pressure has greatly declined, the area influenced by the well will be much smaller. The advantage of exhausting the well in the shortest possible time, therefore, is obvious.

Assuming that the initial year's production of a 6-inch well could be approximately doubled by increasing its diameter within the oil sand to 20 feet, the ultimate production would be greatly increased. For example, according to the U. S. Treasury Department's "Manual for the Oil Industry," an average well in the Buena Vista Hills area, Midway field, Calif., having an initial year's production of 70,000 barrels has a probable ultimate production of 234,000 barrels; while a well having a production of 140,000 barrels during its first year has a probable ultimate production of 378,000 barrels. This represents a gain of 144,000 barrels through enlarging the well, which amount, because of the normal decline characteristics, is largely recovered during the first two or three years of productive life. That is, its period of realization is short and its present value correspondingly high.

Whether the law of equal expectations on which the foregoing reasoning is based would hold when comparing a 20-foot well with a 6-inch, is perhaps, doubtful; but even assuming that the large well produced no more oil than the small well, it would produce it in a shorter time, so that its present value would be greatly augmented and many years' operating expense would be eliminated. It seems reasonable to assume, however, that if the rate of production of a well is thus increased,

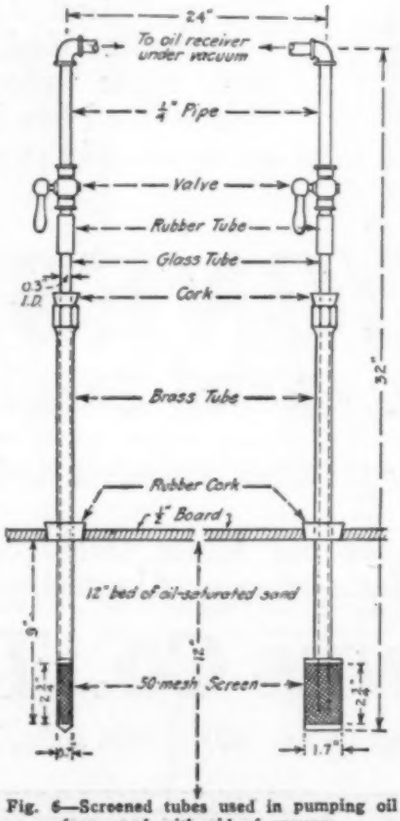


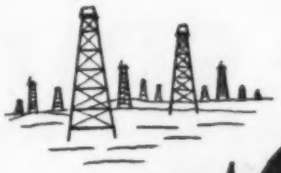
Fig. 6—Screened tubes used in pumping oil from sand with aid of vacuum.

the well will ultimately produce a larger quantity of oil, not only through the extension of its drainage area but also as a result of more efficient drainage. As the area of a circle increases as the square of its diameter, the radius of drainage of the well does not have to be greatly extended to bring twice as much oil within its influence. For example, a drainage area 850 feet in diameter will contain twice as much oil as one 600 feet in diameter. Increased efficiency of extraction alone would easily account for the enhanced production, bearing in mind the fact that by present methods of extraction in many cases we probably do not recover more than 25 per cent. of the oil present in the sands. In addition to the wider spacing of wells that the increased drainage radius would make possible, resulting directly in a lower cost of development for a given acreage, the advantage of an operator in competition with his neighbors along property boundaries, in being thus enabled to increase the rate of production and radius of drainage of his wells, is obvious.

Proposed Method for Increasing Effective Diameter of Wells

The foregoing discussion is purely academic and of no practical significance unless a means can be found of accomplishing the enlargement of the well to the desired diameter and, also, of supporting the walls of the enlarged well so that they do not cave. The sinking of a well from the surface 20 feet in diameter to the depth from which present-day oil production must be obtained would be uneconomical and impractical. The only other alternative is to ream out a well of normal diameter to the desired size where it passes through the oil-producing stratum. Mechanical under-reamers intended for enlarging a well at depth, however, are limited to a few inches in their range of expansion, and no mechanical device that can be operated through a 6-inch well can excavate a cavity of such proportions as has been suggested.

The process here described, which as yet is untried on more than a laboratory scale, the author believes will accomplish this result, at least in certain kinds of oil-bearing rock; particularly the loosely cemented oil sands characteristic of the California and some of the Gulf Coast and Mid-Continent fields of the United States. This process consists in the erosion of the oil sand by a high-pressure hydraulic jet of oil directed from tubing lowered through the well, subsequently filling the cavity thus formed with gravel to support the walls and prevent their caving. By the method proposed, under favorable conditions, it is considered feasible to excavate a cavity about the well that will average 20 feet or more in diameter and extend through-



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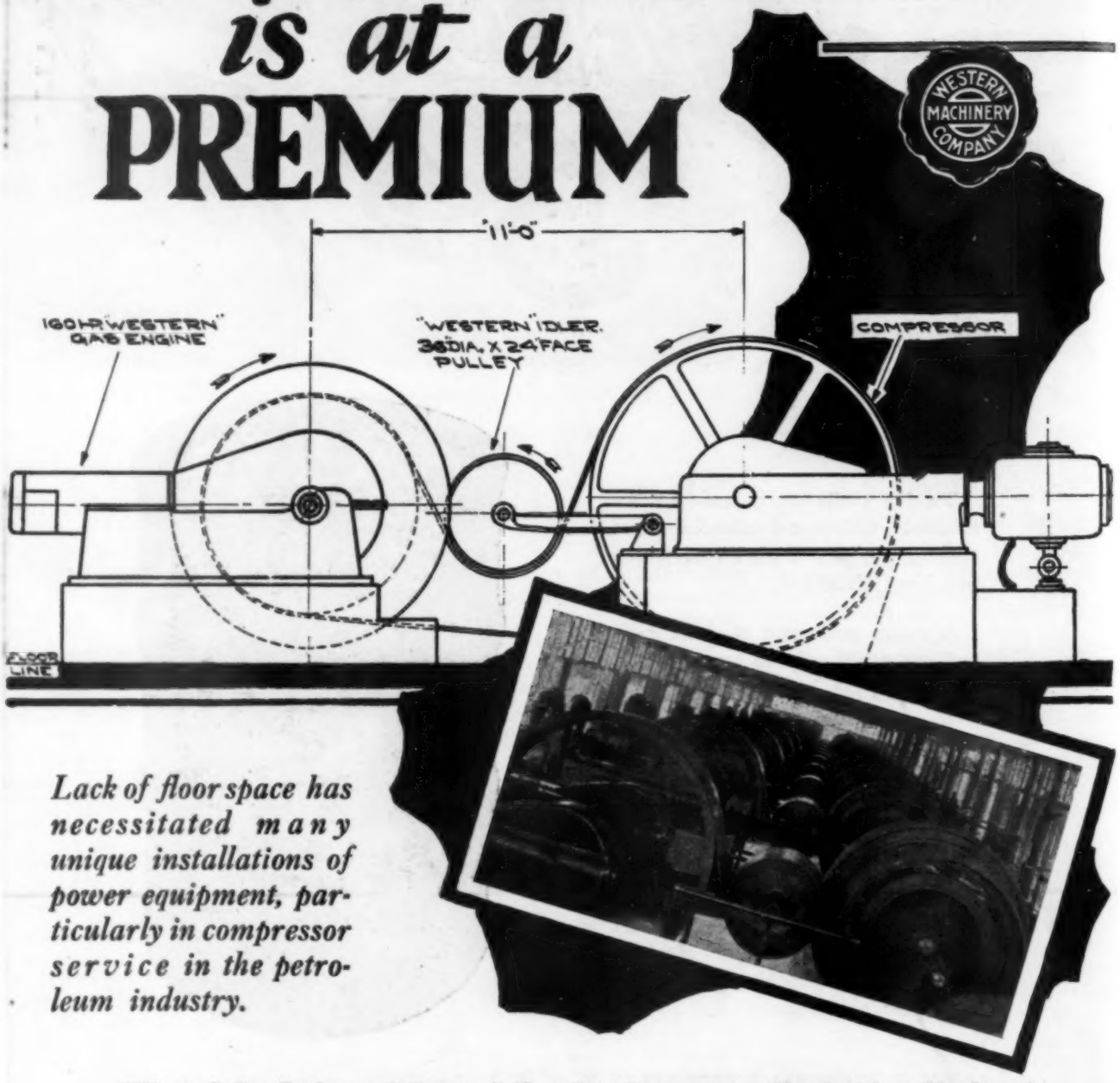

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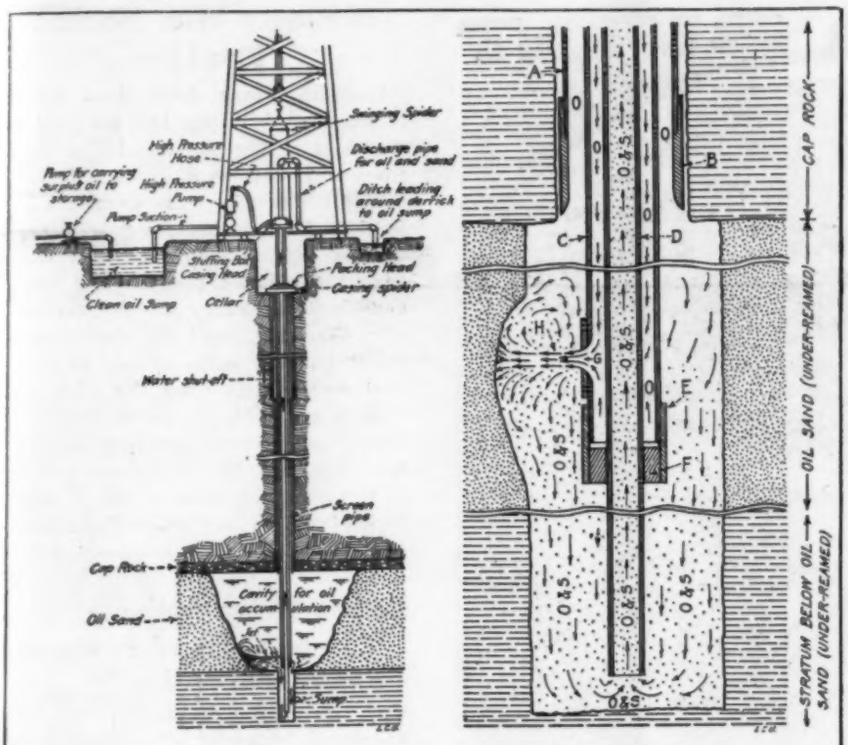

FIG. 7. FIG. 8.

FIG. 7.—ARRANGEMENTS FOR FORMING A CAVITY ABOUT A WELL BY HYDRAULIC ACTION OF A JET OF OIL.

FIG. 8.—METHOD OF FORMING A CAVITY ABOUT A WELL BY HYDRAULIC ACTION OF A JET OF OIL; O, OIL; O & S, OIL AND SAND.

out the entire depth of the oil-producing stratum. The well will be filled with oil so that the detrital material loosened by the jet will be carried to the surface by the oil from the jet, the oil being circulated continuously through the well in much the same manner as is mud fluid in rotary drilling. After the cavity is formed, and while its walls are prevented from caving by the hydrostatic head of oil within the well, fine gravel or carefully sized crush-rock fragments about ¼ or ⅜-inch in diameter will be pumped into the well with the circulating oil until the cavity is again filled. The walls of the cavity will thereby be prevented from caving when the fluid is removed, while the comparatively large interstices between the pebbles will offer small resistance to the flow of oil, so that the enhanced productivity of the well resulting from greater effective diameter will not be greatly altered. All of this work is done after the well has been drilled to its full depth and completed according to the usual present-day practice.

Forming the Cavity

The equipment it is proposed to use in circulating oil through the well is shown in Fig. 7, while Fig. 8 is an enlarged view of the tubing lowered into the well. Two concentric strings of tubing C, D are used, the inner tube D having smooth oxyacetylene welded joints at its lower end so that it is free to slide up and down within the metal plug F closing the lower end of the outer pipe C. This plug fits snugly about the inner pipe D. Both tubes are lowered into the well, first the outer pipe C and then the inner D. The outer tubing is supported in the derrick by a swinging spider of the type used in supporting casing in circulating while drilling with the cable tools; its lower end is about 50 feet off bottom. The inner pipe D passes through the plug F and extends to within 1 or 2 feet of the bottom of the well; it may be supported in stationary elevators suspended in the derrick. It is assumed that the well has completely penetrated the oil sand and has been drilled 10 or 20 feet into the underlying formation. All openings between the conductor and outer strings of casing are effectively closed with one or more packing heads. A stuffing box casing head is placed on the outer pipe C, the inner pipe D projecting through it into the derrick; the upper two or three joints of this pipe D also are welded with smooth joints. Pump connections are made through an armored high-pressure hose with one side outlet of the stuffing box head on pipe C. The pump may be of the type commonly used in circulating mud fluid in rotary drilling and should be capable of developing a pressure of 800 or 1000 lbs. per square inch. Connections are made from the top of the inner pipe D to a sand-settling trough by means of which the oil circulated through the well is led to an oil sump, whence it is taken up by the pump suction for further circulation. The swinging spider permits the outer pipe C to be raised or lowered with the aid of the power, without altering the position of the inner pipe D; with the flexible pump connection it is also possible to turn pipe C about pipe D, back and forth through 360 degrees.

Oil is pumped down between the pipes C and D, flows under high pressure through an orifice G near the lower end of the outer pipe C, and is jetted directly against the oil sand forming the walls of the well (see Fig. 8). Though its force will be partly absorbed by the oil with which the well is filled, it is thought that the pump pressure of, say, 800 lbs. per sq. inch will have a considerable erosional effect even though the sand face is 8 to 10 feet distant. By raising or lowering this pipe C with the swinging spider, or turning it on the inner pipe D, as an axis, from the surface, the jet may be raised or lowerd and directed against all parts of the oil-sand face exposed within the well.

Oil is returned to the surface through the inner pipe D, the lower end of which is maintained but 1 or 2 feet above the bottom of the well. Detrital material loosened by the jet settles into the sump below the oil stratum and is swept upward to the surface into the sand-settling trough; the oil drops its sand and is discharged into the oil sump for further circulation.

When forming a cavity by this method, advantage may be taken of the tendency of the oil sand to cave by starting the cavity at the bottom of the oil stratum and working upward. Because of the tendency of the material to seek its angle of repose, the diameter of the cavity at the top may be somewhat greater than at the bottom. Circulation and manipulation of the oil jet might be continued until sand no longer flows to the surface with the circulating oil, thus indicating that the practical limit of the effective force of the jet has been reached. During the early stages, it will probably be desirable to use a reduced pump pressure to avoid loosening the sand more rapidly that it can be removed by the circulating system. However, the circulating system will be capable of taking care of large quantities of sand, as the sand does not pack when suspended in oil and a large percentage may be present without greatly influencing the fluidity of the mixture.

To Be Concluded in Next Issue

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Compared with elevated tank storage they cost less per barrel to build and install—withstand greater pressure—can be delivered and installed more quickly and *can be moved.*

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McKinney With Houston Pipe Line

Houston, Texas, April 13.—Chas. B. McKinney of Dallas has resigned as president of the Municipal Gas Company, which serves 20 cities and towns in North Texas between Corsicana and Wichita Falls, to become general manager of the Houston Pipe Line Company. The latter concern is a newly organized subsidiary of the Houston Oil Company, and is constructing more than 200 miles of line to transport natural gas from the Live Oak County gas field, located in Southwest Texas, to Houston and nearby industrial centers. Mr. McKinney will be at the operating head of the Houston Pipe Line Company under E. H. Buckner, president of the company.

Empire Makes Ambrose Manager of Production

Bartlesville, Okla., April 11.—Effective April 1, A. W. Ambrose has been appointed "manager of production" of the Empire companies, to fill the vacancy created by the resignation of W. J. Moran. Mr. Ambrose will continue to function as the directing head of the Geological and Land Departments, thus co-ordinating the activities of the three divisions. The plan of clearing the work so closely associated is a further effort on the part of the management of enacting a policy of centralization, where it is practical to do so.

Mr. Ambrose joined the Empire companies two years ago as manager of Land and Geological division. Just previous to that time he was Chief Petroleum Technologist and Assistant Director of the United States Bureau of Mines.

Maddren With United

Harry H. Maddren, who is well known in California, Wyoming and California oil circles, has been placed in charge of production for the United Oil Company with headquarters in Los Angeles. Mr. Maddren has been associated at times with Pacific Oil Company, Prairie Oil & Gas Company in Wyoming and other concerns.

Peeler Given Denver

Officials of the California Petroleum Corporation recently gave General R. L. Peeler and wife a testimonial dinner, following the announcement of the marriage of General and Mrs. Peeler, which fact had been kept rather quiet for two weeks. General Peeler is president of the California Petroleum. They were presented with a beautiful silver set.

G. C. McCLUNG
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Brains and

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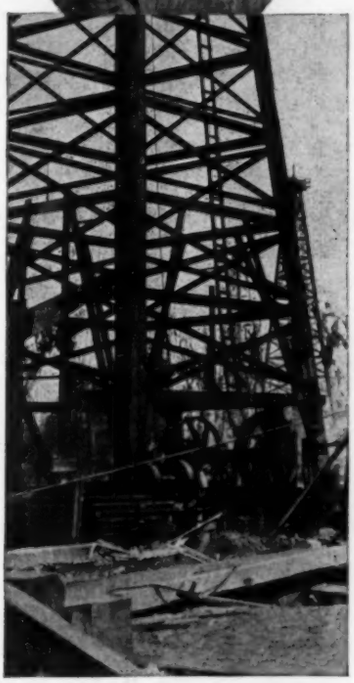

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Moore Heavy Drillers to the Front!

ONE of the most attractive features of the Moore derrick is its dependability under every conceivable hazard. Of course, you can calculate the theoretical strength of any derrick, but you can never be so sure as in the case of the Moore, that the derrick you pick will actually stand all the punishment its rated strength leads you to expect.

Over 30,000 Moore derricks have been sold in the last 18 years, yet the number of failures from all causes is too infinitesimal to be considered.

Since these facts are daily becoming better recognized by leading operators, the percentage of large Moore drilling derricks, used in deep and difficult territory, is increasing by leaps and bounds.

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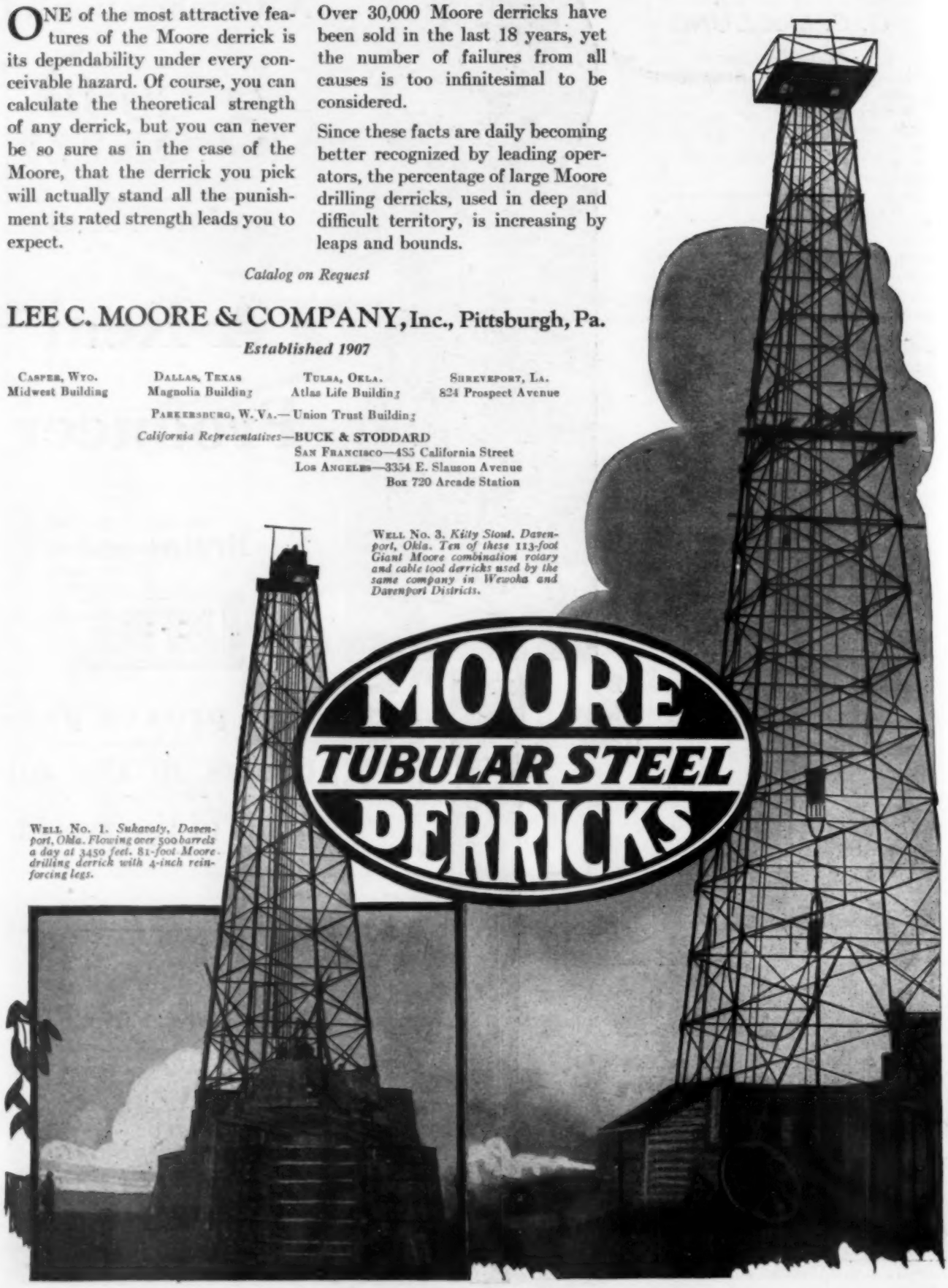


WELL NO. 3. *Kitty Stout. Davenport, Okla. Ten of these 113-foot Giant Moore combination rotary and cable tool derricks used by the same company in Wewoka and Davenport Districts.*

WELL NO. 1. *Sukavaty, Davenport, Okla. Flowing over 500 barrels a day at 3450 feet. 81-foot Moore drilling derrick with 4-inch reinforcing legs.*

Card Index for Keeping Rental Payments on Time

By W. Lee Sloan
Staff Representative

THE importance of having a complete rental payment system is best exemplified by a study of the records which show that some of the most important holdings of companies have been lost when payment of a rental was overlooked.

In the larger companies, systems have been devised which make it most impossible for a rental to pass the payment time without attention. But the smaller independent operators—holders of from 10 to 100 leases—are the ones who experience the most difficulty in formulating a correct but simple system of making payments when rentals are due.

Lease No. 746 | Lessor Joho Doe and Norma Doe, his wife
Address Sapulpa, Okla.
County Creek | Lessee J. K. Jones
State Okla. | Assignee
Description E½ of SE¼ and E½ of NE¼

Sec. 16 Twp. 14 Range 7 Acres 160

Date 1-15-23 | Term 5 years | Expires 1-15-28

Rental Due Yr.	Mo.	Day	Paid	Receipt Filed	Remarks
1924	1	15	1-2-24	XX	Rentals Payable:—
1925	1	15			Annually - $160.00
1926	1	15			
1927	1	15			
192					
192					John Brown ¼ interest.
192					Tom Smith ¼ interest.
192					
192					
192					

Payable At 1st National Bank., Sapulpa, Okla.

Copy of Index Rental Card used for paying rentals by an Oklahoma independent operator

Has Good Method

George P. Sheehan, secretary to T. K. Simmons, Oklahoma and Kansas independent operator, has devised a simple system which is proving very effective. And this, minus the detail work which is generally employed in making a record of leases and thereby cutting down the cost of maintaining unnecessary accounting records.

How It Works

On a small index card, a sample of which is shown herewith, the complete history of the lease is recorded. When a lease is purchased, two of these cards are filled out with the information necessary for a complete record. Each lease is given a number. This number is also given to the card. In addition to the number, the name of the lessor, address, the lessee, the bank to which the rental is sent and such other information as is herewith outlined, is put on this card. It will be noted that the card will accommodate a ten year commercial lease.

Why Two Cards

Two cards are made out for this reason: the original card is filed in alphabetical order for reference only. This record is used only in times when information regarding the lease is desired or some difficulty arises in regard to it. The original is used as a check against the other index which is filed by months.

In the monthly index, the cards are filed under the month on which the rental payment is due. Under each month, the cards are filed according to the dates. For instance if a rental is due on the first day of January, it will be the first card under the January file and so on. This file is used for the payment of the rentals wholly and is daily referred to. Sheehan pays all rentals 30 days before they are due so during the month of January he daily refers to the February leases. This system is used to insure the arrival of the check at the bank in ample time before it is due and to allow plenty of time to get the return receipt from the bank.

STANDARD FORM 130 FOR SALE BY MAHAFFEY PRINTING CO., TULSA, OKLA.

NAME OF COMPANY

Check No..... Date,..... 19.....

.....has this day

deposited in.....the sum of

.....Dollars, for the credit of persons named below

in amounts stated in payment of.....under oil and gas

lease of lands in the state of.....from.....to.....

covering

LEASE NO.	FOR CREDIT OF	AMOUNT	COUNTY	ACRES

Please Sign and Return to

.....

Sign here.....

By.....

Cashier.

Receipt used in connection with the Rental System

Receipt Form

To complete the rental payment system a form of receipt as shown in the accompanying illustration is used. This form is made out in different colors and four copies are used. To distinguish these copies, the original is white, the first copy pink, the second copy blue and the last copy green.

The white and green copies are attached to the check sent to the bank designated on the assignment. The white or original copy is signed by the cashier of the bank and returned as a receipt for the check. The green copy is sent from the bank to the land owner showing that the deposit has been made to his or her credit. The pink copy is filed in a jacket which contains the lease. The blue copy is held in abeyance by the lease department until the contract is complete. It is then sent to the accounting department for filing.

When the white copy is returned by the bank, it is attached to the voucher

(Continued on page 51.)

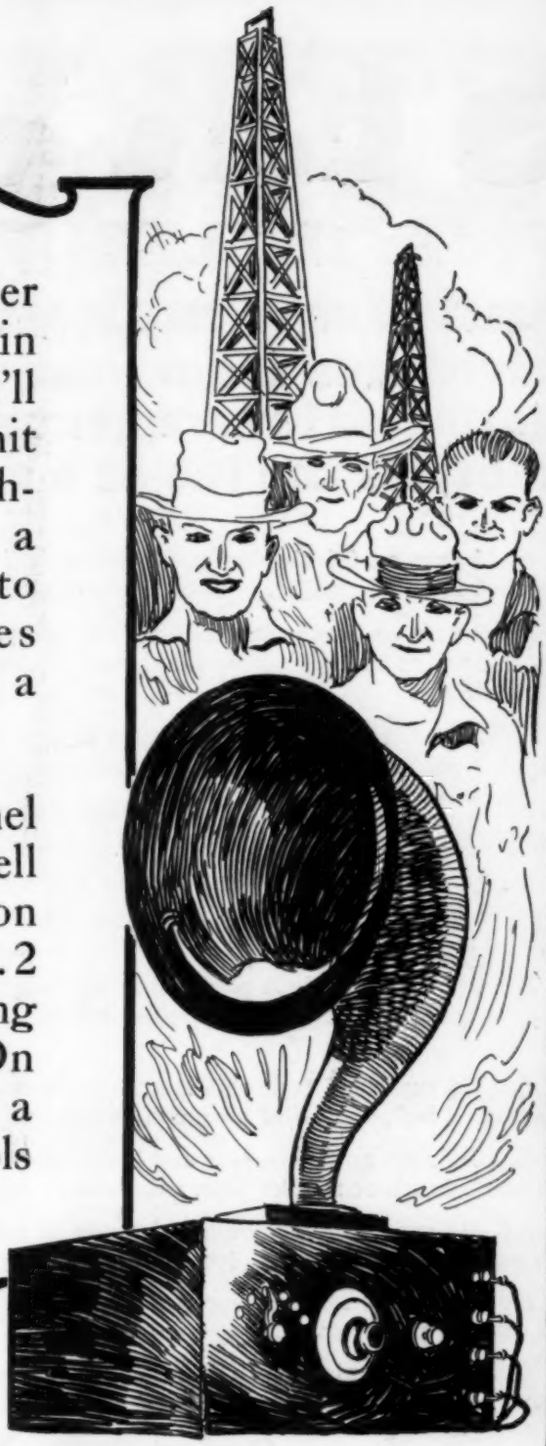
Listen in

Reed Roller

NEW YORK HOUS

O. G. "Red" Waller, driller for Murchison & Fane in the Olney field says, "I'll tell the world when you hit this slick lime there's nothing that'll cut it like a Reed Bit. It's handy to work with, and goes through that stuff in a hurry."

"Red" brought in Harmel No. 1, the discovery well in the Harmel pool, on Sept. 9th; also Echols No. 2 on March 16th, extending the pool nearly a mile. On Harmel No. 1 he used a Reed 9″ bit and on Echols No. 2 a Reed 11″ bit.



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No. 2 runs on 6 inch pipe and inside 9 inch and 9¼, 9½ and 9⅞ to catch 4 inch or smaller pipe, collars and tool joints.

No. 3 runs on 8 inch pipe and inside 11 inch hole to catch 6 inch or smaller pipe, collars and tool joints.

No. 4 runs on 4 inch pipe and inside 6¼ hole to catch 3 inch or smaller pipe, collars and tool joints.

No. 10 (Special) runs on 8 inch pipe and inside 9⅞ hole or 10 inch casing to catch 6 inch or smaller pipe, collars and tool joints.

No. 312 runs on 8 inch pipe and inside 12 inch casing to catch 6 inch or smaller pipe, collars and tool joints.

No. 315 runs on 8 inch pipe and inside 15 inch hole to catch 6 inch or smaller pipe, collars and tool joints.

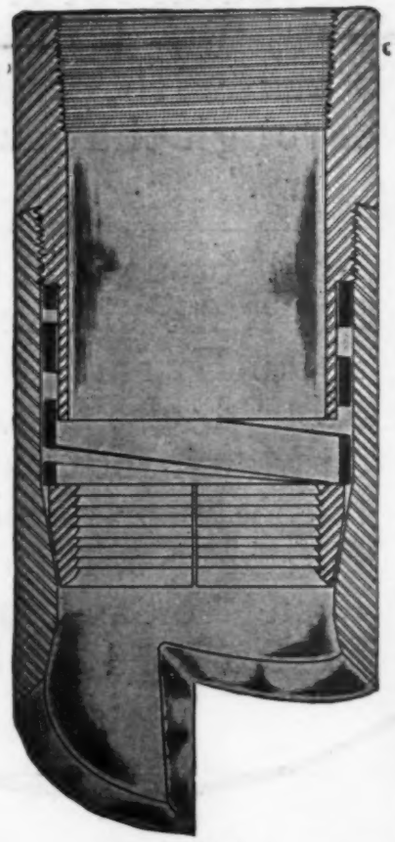
No. 317 runs on 8 inch pipe and inside 17 inch hole to catch 6 inch or smaller pipe, collars and tool joints.

No. 318 runs on 8 inch pipe and inside 18 inch hole to catch 6 inch or smaller pipe, collars and tool joints.

No. 320 runs on 8 inch pipe and inside 20 inch hole to catch 6 inch or smaller pipe, collars and tool joints.

Quick service given on order for special sizes per your requirements.

Patented



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California Can Hardly Expect Marked Drop

Operations in old fields indicate that production can be held up without much trouble—Wildcats showing

By W. E. Green
Staff Representative

Los Angeles, Calif., April 11.—Oil operators in California are fast reaching the conclusion that production in California will continue to hover between 575,000 and 600,000 barrels daily throughout the year with a bare possibility that new fields can be developed in such a manner to force the production higher than 600,000 barrels daily at the close of the year. At this time there is about 30,000 barrels of daily production, heavy oil, shut in.

Old Fields Hold Up

Developments at the older fields in Los Angeles Basin the past week help to uphold such an argument, and strengthen the feeling that production will remain high. Long Beach has been showing some decline the past two or three weeks, but information from the field leads many to believe that the Long Beach production will continue above or around 100,000 barrels for a long time—probably months. The daily average in this field is now around 114,000 barrels, against daily average pipe line runs of 125,600 barrels last December. It will be seen that the decline has been around 10,000 barrels daily in over three months. At the close of last December only 25 wells were drilling, and many of them were never completed.

Santa Fe Springs

But during the past week, there was an increase of about 4500 barrels daily average production at Santa Fe Springs, making the daily average 51,000 barrels, against a daily average pipe line run of 50,641 barrels last December. And only five wells were drilling in the entire field last December. It will then be seen that the field has shown no loss in nearly four month's time, but rather has shown a slight increase. The working over of the wells, the placing of pumping wells on air, and the use of long stroke outfits and other means of keeping up of production has been resorted to. And the efforts of the producers to hold up their production have been successful. It is hardly expected that production can be held up to around 50,000 barrels many weeks longer, as the gas pressure is off, and in the past two or three weeks the fluid level has shown a tendency to recede, but not to an alarming extent.

Huntington Beach Declines

Huntington Beach continues to produce more than 40,000 barrels and it is very doubtful if the production in this field will be less than 35,000 barrels daily next December. The Standard Oil Company still has considerable acreage that is proven and not yet drilled. The Standard can be expected to complete two or three wells a month, to assist in holding up production. The same can be said of Torrance.

Torrance production continues to hold around 40,000 barrels a day from more than 500 wells. The C. C. M. Oil Company has a very large proven acreage yet undrilled. Other concerns hold lesser amounts of proven acreage. A large portion of the undrilled proven acreage will produce the heavier grade of oil, around 15 to 19 gravity.

Inglewood is Active

The new Inglewood field in the Baldwin Hills is proving itself fast. A recent check showed four flowing wells and 10 wells on the pump, making a daily average of around 2000 barrels a day. Just recently Petroleum Securities' Cone 4 came in at 1775 feet for 500 barrels of 19.1 gravity oil, clean. A considerable area has already been proven for shallow production and many believe that there is yet a splendid chance to find a deeper pay that will furnish a higher gravity oil. In fact at least two wells have found good pay sand below 2500 feet. About 25 wells were drilling in the field late this week, and new locations have been made the past two weeks in such numbers that indicates that early in May at least 50 wells will be drilling in the field. This field lies just outside of the city limits of Los Angeles and one pipe line is now operating and at least three lines should be in readiness for service in another few weeks.

Three Sands Found

Three sands have been found to be producing in the Rosecrans field. This field now has a daily production of around 18,000 to 19,000 barrels, but due to the number of wells drilling, this production should be boosted to better than 25,000 barrels a day in a few weeks. There has been much trouble in shutting off the water in this field, and there have been more recementing jobs at Rosecrans than in any other Los Angeles Basin field. But it is still believed that the problem will be solved.

A fair portion of the production at Rosecrans is around 40 gravity, and the gas is very rich and is holding up. The Barnsdall's O'Dea 3 is still producing around 1275 barrels of 41.8 gravity oil in the southern part of the field with bottom of the hole at 4340 feet. This well is producing from the same sand that caused the Union Oil Company so much trouble in its Rosecrans 1, where a water shutoff has seemed almost impossible, after many attempts. But the Barnsdall is producing oil cut only 0.1 per cent. E. J. Miley's No. 1 is producing slightly better than 1200 barrels of 36.2 gravity oil, clean, with bottom of hole at 5238 feet. Barnsdall's Rosecrans 3 after producing 27,000 barrels of oil from the shallow sand at 3952 feet will be drilled deeper. At present it is producing 170 barrels of 35 gravity oil, but it is practically sure that much oil can be produced from the deeper pay known to be underlying the present sand.

Wildcats Showing

There are several wildcats showing up to the extent that one or more fields are possible. The Beverly Hills test of the Pacific Oil Company has reached a total depth of 3340 feet, with heavy gas and oil showings for the past two weeks. This well blew mud, water and oil into the derrick at 3200

Card Index for Keeping Rental Payments On Time

(Continued from page 47.)

which has been made out to record the complete transaction.

Each filing index system is kept in a small cabinet on the desk of the one paying the lease rentals. These small cabinets do not take up much space and during the night the safe will accommodate the cabinets.

This system has been in use for the past three years and the users have never lost a lease as a result of the rental not being paid in time.

feet and since then they have had to add Barite to the mud to hold the gas pressure. The oil showing appeared to be heavy oil and it is thought that a lighter oil can be found at a greater depth. This well was spudded about February 1, and good progress is being made.

Another well causing a lot of speculation is the Windwell Oil Company test at Lawndale, about midway between Rosecrans and Manhattan Beach, some three miles west of Rosecrans. Scouts have been visiting the well, and large signs are in evidence stating that oil sand has been penetrated and that oil has come out of the hole. The hole has a total depth of 5586 feet and the sand is reported to be between 5528 and 5568 feet. Certain scouts visiting the well have reported that a small amount of oil that looked like 25 gravity oil, clean, had been seen seeping over the top of the casing. Three inch tubing has been run in. It is said that the well lies on a good looking structure. But there is still doubt in the minds of many that the company will ever complete a commercial producer. Lots are being sold in the vicinity of the well, but no effort is being made to sell stock.

Tar Showings

Reports from the Standard Oil Company's wildcat on the Irvine Ranch near Santa Ana say a tar sand has been penetrated and the test has reached a depth of 2245 feet. Reports are not so good from the Associated Oil Company's test at Saugus where a total depth of 4490 feet has been reached without any gas or oil showing. The same is true of the Union Oil Co.'s Ocean Park Heights wildcat where a depth of 3743 feet has been reached without any showings. The Union has closed down on visitors at the well and all information must come from Los Angeles office of the company. And the reports are rather vague.

The Shell Company has found a sand showing light oil in its deep test drilling in the Puente Canyon, the scene of shallow drilling as far back as more than 20 years. Most of the production from this area comes from around 2000 to 2500 feet and the whole area is held by the Shell. The deep test is now drilling around 4300 feet.

New Continental Officers

Denver, Colo., April 11.—At the annual meeting of the Continental Oil Company (Mutual) held this week at Portland, Maine, all directors were re-elected except O. H. Williams, who has resigned. The board of directors were increased from seven to nine.

New directors of the Continental are P. R. Naylor, traffic manager; E. S. Karstedt, sales manager, and A. D. Davis, refinery manager.

Humble Makes Purchase In North Texas Field

Wichita Falls, Texas, April 13.—Humble Oil and Refining Company has purchased the producing properties of the South Vernon Oil Company in the South Vernon field, Wilbarger County, for a consideration of $1,100,000, of which $750,000 was cash and the remaining $350,000 to be paid out of one-fourth of the first oil produced. The properties consist of 142½ acres on the Stephens land in the northwest quarter of section 83, with 11 wells making approximately 950 barrels daily. Seven of the wells are producing from the 2000-foot sandy-lime pay; three from the 1300-foot sand, and one pumper in the 900-foot pay. Nine tests are drilling, with three others rigging up.

The South Vernon Oil Company discovered the field in January, 1924, and has been lagging behind in the development of its lease for some months. The purchase price paid by Humble was not based on a current production basis, but on the potential yield of the series of producing horizons known to exist on the lease. Humble has a combination six and four inch line connected with the field, and is also operating the only gasoline manufacturing plant, which will derive a large percentage of its gas from the Stephens lease. Humble has launched an active drilling campaign on its newly acquired lease, and has approximately 1400 barrels of production on its Castleberry 80-acre lease in the southeast part of the field.

Modern Methods Again Refute Past Drilling

Wichita Falls, Texas, April 14.—The completion of a 140 barrel pumper amid a group of deep dry holes on the Waggoner ranch in central Wilbarger County by Gulf Production Comany early this week adds weight to the general belief that modern drilling methods and skillful workmanship will redeem many acres considered condemned by wildcats drilled some years previously. Gulf's wildcat producer is in the center of the northeast quarter of section 50, block 14, and is producing pipe line oil with very little gas pressure from sand at 1787-96 feet. The nearest oil production is Levy et al's wildcat producer in the 1427-foot sand, section 65, while both producers are in a line between the South Vernon and Electra fields. Sinclair has furnished a pipe line connection to the Gulf producer.

A half dozen wildcats were drilled some years ago in close vicinity to the location of Gulf's wildcat producer, and all of these tests showed oil and gas from a series of sands, but the drilling crews did not make commercial producers. Levy and others' wildcat producer is also located between a group of old wildcat failures. A northeast offset to the Levy discovery well was completed last week by the Atlantic Oil Producing Company making 55 barrels daily from broken sand at 1414-27 feet.

Heavy rains during the past week relieved the water shortage in the North Texas fields to a great extent, and a number of rigs shut down for water will resume operations. However, field operations will not be pushed at the rate maintained during the first three months of the present year, owing to the unsettled condition of the crude and refined markets, while wildcatting will continue to decline until lease activity resumes a normal trend. Most of the wildcats drilled in North Texas are financed through the sale of leases, and the recent curtailment of lease buying by large companies has served to check wildcat work.

Completions in Wichita, Archer and Young Counties during the past week were largely confined to the proven areas, and the largest producers were registered by the Gambrell and Litch-field-Carpenter pools in upper Young County. Archer County's new production is on the decline, and 19 dry holes were reported last week.

Litigation Nearing End On Urania Discovery Well

Shreveport, La., April 13.—Very little happened at Urania last week, although it is said that litigation which caused the closing-in of the discovery well may be settled soon, which will permit its owners to open it up and clean it out.

Zeigen and others have begun drilling in their offset to the discovery well; and the Imperial Oil & Gas Company has built a derrick in section 10-10-2e. The Gulf Refining Company is reaming to set casing for a test at around 2600 feet in its Urania A-1, in section 22-10-2e. The Bur-Ban Oil Company's Urania 2, in section 21-11-2e, has been abandoned as a failure at a total depth of 2740 feet.

The Triangle Drilling Company and John Y. Snyder, of Shreveport, are coring in the Nacatoch at around 2050 feet in their Cox wildcat, near Sugar Creek, in Claiborne Parish. An extensive prospecting campaign has been in progress during the last two years in the general territory lying east of Homer, and a structure has been outlined in that vicinity. The Snyder-Triangle well, because of this fact, and also because it was located upon geological advice furnished by the discoverer of the Haynesville, Bellevue, Cotton Valley, Waskom, and other Lousiana oil and gas fields, is receiving more attention from wildcatters and scouts than even the Urania discovery well, at present.

C. E. Hane of Tulsa has resigned as vice president of the Tidal Oil Company and has been succeeded by A. A. Beard, also of Tulsa.

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Bovaird & Seyfang Oil Field Boilers.
Jones' Acme Gas Engines.

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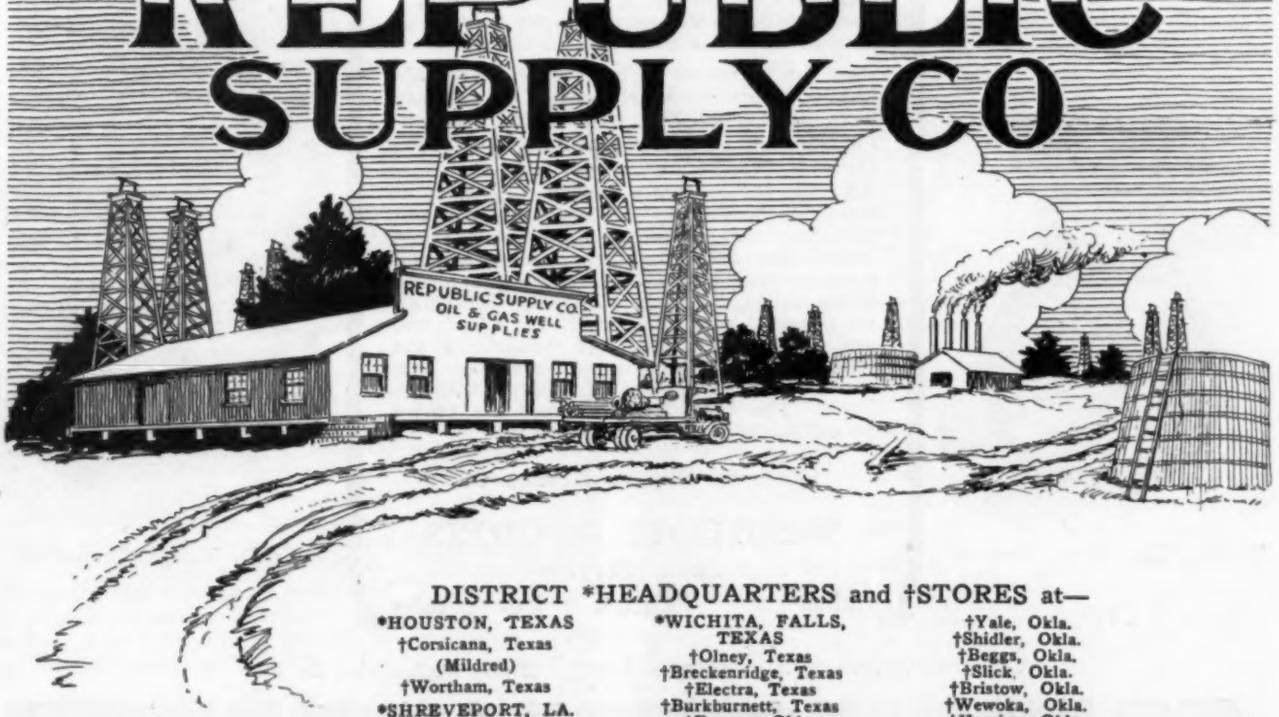

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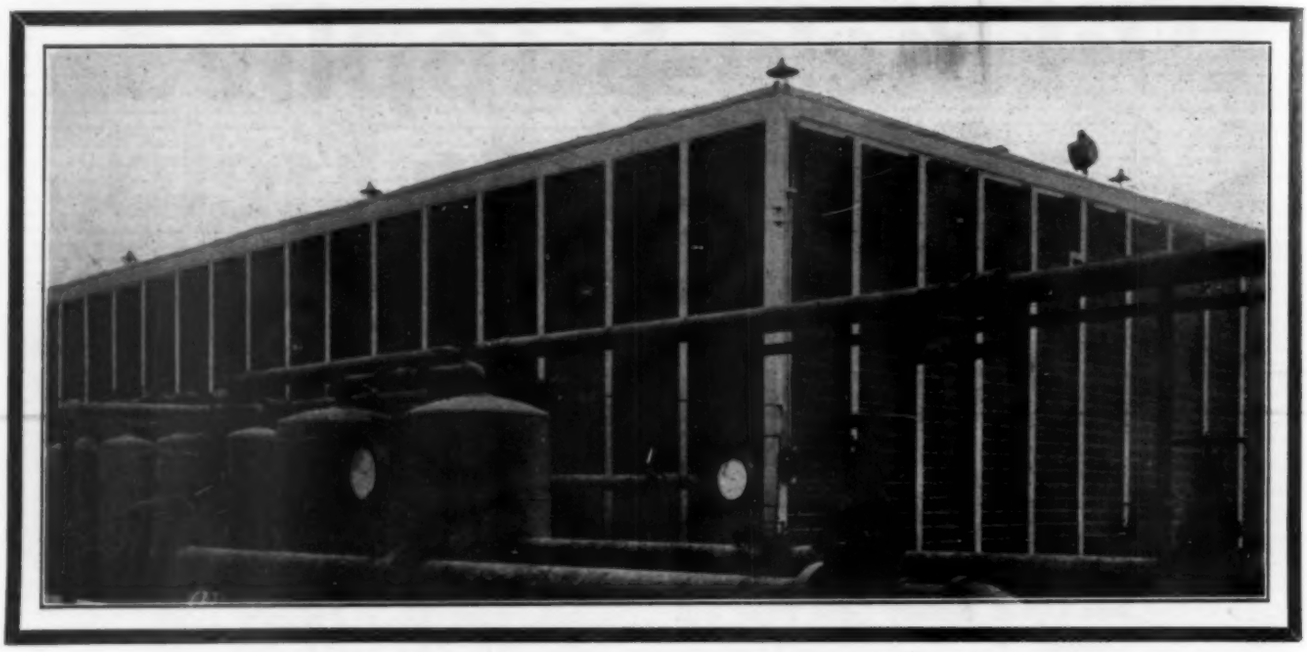
Say you saw it in The Oil Weekly

WESTCOTT *Orifice* METERS



For accurate measurement—the meter unsurpassed

Testing Zero Float Position

The float, in WESTCOTT Orifice METERS, is kept parallel with the mercury, permitting of quick and simple adjustment to make the necessary corrections. Lost motion is practically eliminated and friction is reduced to a minimum. The float is of exceptionally large area, thereby providing a surplus of power for operation to overcome the slight amount of friction which we must accept.

Pens can be zeroed by bending at the flexible joint provided for this purpose. Low pressure tests on WESTCOTT Orifice METERS can be run with the mechanism open for the tester to easily adjust.

All these features are embodied in a Meter of attractive appearance, having a black enameled, die cast, aluminum case with joints sealed with felt gaskets to render dust and moisture proof protection to all working parts. Incidentally, WESTCOTT Orifice METERS are provided with an automatic door latch and pen lifter, with the chart hub connected to the case with a chain, but in such a manner that the chain does not come into contact with the chart. The chain cannot deface the record by spreading the ink.

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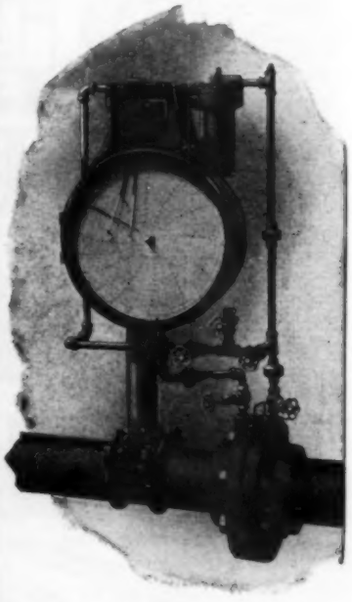

Type D, Flange Connection

General Office and Factory—Erie, Pennsylvania, U. S. A.

METRIC METAL WORKS

OF THE AMERICAN ETE [illegible]

Say you saw it in The Oil Weekly

No Rush in Drilling for Garber Sand

Oklahoma operators do not look for heavy output until late summer in new deep pay

By W. Lee Sloan
Staff Representative

Tulsa, Okla., April 14.—After the first week has passed since the advent of the Sinclair Oil & Gas Company's new deep sand producer in the Garber field, the market has shown no reaction from its possibilities. Operators of the state are of the opinion that it will take four months at the least before the final analysis of the field can be made. One contractor of Tulsa allots this period of time for the drilling in of the wells which have recently been spudded.

In the event these expressions are correct, the bulk of the Garber deep sand crude will not hit the market until the middle of July, a time when crude should be most in demand in Oklahoma. With the fast depletion of the deep sand reservoir in the Tonkawa field, the effect of Garber will not necessarily have the effect it would have if the Tonkawa deep sand production was still coming in.

Outside of the Garber potentialities and the northern extension of the Cromwell field, the state now does not have so much to worry about in the way of an over production period. Some operators figure that it is quite enough to worry about however.

Second 1925 Oil Find is Doubtful

During the past week another important event was written in 1925 oil history in Oklahoma, but from the more recent reports it now seems that the entry will have to be erased. The Bement Oil Company is responsible for the newest find. Their wildcat well on the Box farm at the southeast corner of the southwest of the southeast of section 30-23-5 Pawnee County unexpectedly found a sand at 2710 feet and it started off making about 60 barrels per hour with the tools hung in the hole. The latest reports from the well indicate that on Saturady of last week the well stopped producing and on the following Monday it was still a non-producer. Just what has happened is not known on account of the tools being in the hole. Some geologists have pronounced the new well a Peru sand well while others have expressed the idea that it is a stray sand not yet old enough to be named. The well is located on a 2000 acre block held by the Bement people.

Garber Well Holds Up

The Sinclair Oil & Gas Company's No. 25 Belveal, the discovery well of the deep sand at Garber is now 17 feet in the Bartlesville sand and the last 24 hour gauge shows that it made 2690 barrels. Operators have stopped the tools at a depth of 4394 feet and will leave it at that depth for a week in order to test the stability of the sand. The result of this test will have an important bearing upon the future exploration of the deep sand structure in the field.

For the second week in succession Oklahoma reported over 100 new locations for wells during the week just passed. A total of 107 wells were reported in the state with the Seminole district leading all others, having a total of 23 beginners. The majority of the new Seminole wells are located in section 33-11-8, north extension of the Cromwell field.

Sinclair Extends Cromwell

During the past week the Sinclair Oil & Gas Company, with George Thomas and Allan T. Burke, extended the north extension of the Cromwell field with their No. 1 Jackson in the southwest corner of the northwest of section 34-11-8. This well is the farthest east well of the extension. It found the sand from 3404 to 3420 feet and its initial production was gauged at 50 barrels per hour which afterwards settled to 32 barrels per hour. The well is situated on a 40-acre tract which Burke and Thomas sold a half interest in to the Sinclair Company for a consideration said to be $17,000 and the drilling of the well.

The Texas Company that extended the deep sand area at Tonkawa with the No. 7 Davis in the southeast corner of the southwest of section 27-25-1w, the farthest west well of the deep sand territory has again extended the field by the bringing in of their No. 4 Davis in the center of the south line of the southwest of section 27-25-1w which is making 40 barrels per hour from a total depth of 4195 feet. The well is the 96th well of the deep sand, Almost all of the newest completions in the area are showing water in their initial production. Amerada's No. 40 Woods made 100 barrels of oil and 25 barrels of water while the Comar Oil Company's No. 14-W Blubaugh "A" was swabbing only 10 barrels of oil through a hole almost filled with water.

Cosden Well Sprays Oil

The Mid-Continent Petroleum Corporation's (Cosden) well in 17-10-9 which has caused so much excitement during the past month is now showing a spray of oil along with the 22,000,000 cubic feet of gas after it was drilled in five feet deeper. The well is in the north end of the Papoose pool of the Wetumka area in the southeast of the southeast of the northwest of section 17-10-9 on the Richardson farm.

Just west of Holdenville in Hughes County, the Gypsy Oil Company's No. 1 Archer, in the southwest of the northeast of section 35-8-8 is reported to be making five million cubic feet of gas from a total depth of 3260 feet. A light spray of oil is accompanying the gas flow. The well is now shut down to run casing before a test is made.

Hubbard Pool Annexes Three

Three new wells were added to the Hubbard pool during the past week. The Prairie Oil & Gas Company's Nos. 1 and 2 on the Smith farm, and the Marland Oil Company's No. 5 North. The Smith No. 1, in the northwest of the southeast of section 1-26-2w is making 200 barrels of oil and ten million cubic feet of gas from sand at 2530 to 2540 feet. No. 2 Smith, in the southwest of the southeast of the southeast of the same section is making 400 barrels of oil and ten million cubic feet of gas and the Marland well is flowing 840 barrels per day and three million cubic feet of gas. There are now seven wells in the Hubbard pool with a daily average production of 2065 barrels.

Texas Shoots Davenport Well

The Texas Company's No. 1 Oleson in the Davenport district of Lincoln County was shot with 60 quarts but failed to show any marked increase in production. During the 24 hours following the shot it made 210 barrels from its total depth of 3366 feet, which is about the same as the previous day's production. This well is located at the northwest corner of the southwest of the southwest of section 2-14-5.

Los Angeles Shipments

Los Angeles, Cal., April 11.—Record of shipments of crude oil and other petroleum products in barrels out of Los Angles Harbor the past two weeks follows:

	Past Week	Prev. Week
Tankers departed	23	36
Total crude moved	809,623	1,154,695
Total fuel moved	461,266	896,694
Total gasoline moved	340,229	267,904
Total kerosene moved	57,500	123,000
Crude, Pacific domestic	445,822	455,700
Fuel, Pacific domestic	182,000	595,507
Gasoline, Pacific domestic	105,000	43,201
Crude, Atlantic domestis	224,023	572,928
Gasoline, Atlantic domestic	161,329	144,756
Crude, foreign	139,778	126,067
Fuel, foreign	279,266	301,187
Gasoline, foreign	73,900	79,949
Kerosene, foreign	57,500	123,000

Safety Work Has Inning at Dallas Meet

(Continued from page 25.)

Oil & Gas Association, and the financial condition of the Safety Council was also disclosed by the speaker. The work of the Council has been retarded through limited membership and funds, and a plea was made by Mr. Smith for present members to use their influence in getting other oil companies interested in the safety work.

Charles E. Bowles, assistant general secretary of the Mid-Continent Association, was elected secretary of the Safety Council at the Friday morning session.

Mr. Cameron of the National Safety Council made a talk by invitation,, and explained the relation of his organization with the safety work now being conducted by the oil industry. Individual companies in the Mid-Continent district have been receiving bulletin service of the National Safety Council for some time, and 100 new bulletins covering hazards and preventives of accidents in the petroleum section are being prepared by the national body.

Trade Journals Have Work

The afternoon session of the first day of the convention was started off with a paper by Paul Wagner of the National Petroleum News on the subject of 'Co-operation of Trade Journals" in furthering the cause of safety in the oil industry. D. J. Wallace, pioneer safety worker, read a paper on the value of bulletin service in the field and at plants.

An open discussion and exchange of ideas regarding bulletins was participated in by the attending safety leaders following the close of Mr. Wallace's talk, and a number of questions were asked for information. The size and location of bulletin boards were discussed pro and con, while the frequency of copy and class of reading matter and illustrations were analyzed from past experience. Bulletins having a serious story to illustrate were found to be adaptable among some classes of workmen, while the humorous type of safety warnings served best in reaching other workmen. The safety leaders were unanimous in the use of local "color" whenever possible in preparing bulletins, while it was also found that suggestions volunteered by workmen for bulletin board copy are most desirable.

J. S. Gibson of the Prairie Pipe Line Company talked on the results of motion picture programs in the fields, and pointed out that the presence of wives and children at these shows enable the Council to reach workmen that do not listen to safety talks, as the wives and children realize the danger warning through the picture and appeal to their breadwinner to be careful.

The history and operating plans of the Joseph A. Holmes Safety Association was outlined by J. J. Forbes, district Engineer Bureau of Mines, with headquarters at Birmingham, Ala. This Association is fostered by the Bureau of Mines, and was organized and named after the first director of the Bureau. It has been functioning about two and one-half years in the mining centers, and does not interfere with other safety organizations, but supplements same with local chapters, thereby maintaining interest among workmen in safety work almost continually. The Holmes Plan is now available for the oil industry to work in conjunction with the Petroleum Safety Council, and the directors of the latter organization will meet shortly to decide on the adoption of the plan, which will result in local chapters being established in all the principal oil fields.

R. H. Innes, inspector of the Bureau of Explosives, outlined his past experiences in promoting safety measures among gasoline shippers in tank cars for some years past.

A paper was read by E. D. Murphy, safety engineer of the Mid-Continent Petroleum Corporation, on "Statistical Records," and in connection with the paper sample copies of bulletins, and forms used in compiling accident records of individual workmen and forces were passed around for inspection.

Current Crude Movement Augments Firmer Market

(Continued from page 30.)

to be available until refined products resume a profitable position.

Building Stocks

The Texas Company's attitude regarding the future trend of the crude market is clearly illustrated through its interest in building up stocks of high gravity crude for the summer gasoline demand, while the Magnolia Petroleum Company is equally as interested in adding to its supply of light oil. Magnolia's daily average crude runs from various fields in Oklahoma, Texas, Kansas, Arkansas and Louisiana amounted to 53,265 barrels, or a loss of 10,950 barrels as compared to the daily average for February, and 21,779 barrels under the daily average maintained last November. Although Magnolia is encouraging new connections in all high gravity fields, less than 15,000 barrels daily was run from outside connections during March from the five states, thereby indicating that Magnolia will not take the lead in reducing the price of Mid-Continent crude. Gulf does not purchase sufficient outside oil in the Mid-Continent to lead off in a price change, while Sinclair and Prairie are not displaying any uneasiness regarding the future of the price trend. Prairie has contracted to purchase 110,000 barrels of storage oil from the Hoffer Oil Corporation in the Cromwell field, Oklahoma at the market price, and is running the oil at the rate of about 5000 barrels daily.

Although Humble took the initiative in reducing Gulf Coast crude early this week, its position in the light oil areas in the North Texas district as a producing company discounts the possibilities of a widespread cut being posted by Humble. Humble is the dominating company in the Mexia-Corsicana section of the East Central Texas fault region, and during March ran a total of 2,104,985 barrels from the five fields, or a daily average of about 67,900 barrels. Humble's daily average production in the Corsicana-Powell, Wortham and Mexia fields during March amounted to 42,115 barrels, while its outside purchases in the district amount to more than 25,000 barrels daily.

Getting Ready to Drill Guatemala Concession

New York, April 13.—Preliminary work will begin before July 1, 1925, on the 325,000-acre hydrocarbon concession recently acquired in Guatemala from Nuyens and Company by the Perpetual Petroleum Corporation, a subsidiary of the Consolidated Petroleum Corporation of Boston.

If preliminary investigations warrant, the Perpetual plans to have Star and rotary rigs in action on its holdings before the year is up.

The concession, which lies in the departments of Izabel and Alta Verapaz, borders the salt lake Izabel. It is said to be marked by several anticlines, and oil seepages are reported to exist in various places.

Terms of the concession provide for a payment of 10 per cent royalty to the Guatemalan government and give the operators right to retain the property for 44 years, to have the right of constructing and maintaining roads and communications of all kinds, to engage in tradeso f all kinds, to make free use of the natural resources, and to exercise the right of eminent domain.

Increasing Capacity

Long Beach, Calif., April 11.—The U. S. Tool Company at 3303 Cherry Avenue, Long Beach, is doubling the capacity of its plant. It is expected that the new building and new machinery will be ready within another thirty days. The U. S. Tool Company is having great success with its disc bit, which has been on the market for nearly two years, and the number being sold, in addition to other oil field equipment and tools, has greatly taxed the present plant for some months.

Guiberson Moves

Los Angeles, Calif., April 11.—The California branch of the Guiberson Corporation has been moved from 1737 East Seventh Street, Los Angeles, to 1506 Santa Fe Avenue, where the additional space makes the handling of the increased business much easier. W. R. Guiberson, vice president, in charge in California, would like to welcome his old friends to his new quarters, but they must keep their feet off his desk.

These Features Explain the Increasing Demand For the LUFKIN PUMPING UNIT AND HOIST

PATENT PENDING

Lower Power Cost
Lower Upkeep Cost
Saves Time
Greater Safety
No Belts, Counter Shafts or Rods
High Salvage Value
Continuous Operation
Reduces Fire Hazard

And Many Others.

While designed for direct motor connection, can be driven by gas or oil engine directly connected or geared to the unit.

Photograph above shows scene in plant of Lufkin Foundry & Machine Co., where pumping units and hoists are being made.

WRITE FOR CATALOGUE AND PRICES

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3009 Woolworth Bldg.
HOUSTON
806 Carter Bldg.

LUFKIN
TEXAS

LOS ANGELES
506 Com. Exchg. Bldg.
TULSA
317 Roberts Bldg.

CRUDE OIL PRICE QUOTATIONS

Crude Price Changes

CRUDE CHANGES

April 13.—Effective at the opening of the market today the Humble Oil & Refining Company posted a cut of 25 cents on both grades of Gulf Coast crude. This cut was met by the major purchasers.

April 14.—Effective at the opening of the market today, the Standard Oil Company of Louisiana posted a 20 cent cut on Smackover crude of gravity below 25.

Current Postings

EASTERN STATES

	Apr. 17 1925	Apr. 17 1924
New York Transit	$3.65	$4.50
Bradford (Pa.)	3.65	4.50
Gains	3.55	...
Other Pa. Grades	3.55	4.00
Cabel	2.20	2.20
Ragland	1.30	1.10
Corning	2.10	2.15
Somerset, medium	2.30	2.30
Somerset, light	2.45	2.30

CENTRAL STATES

Illinois	$2.02	$2.0[illegible]
Idniana	2.03	2.08
North Lima	2.23	2.28
South Lima	2.23	2.28
Plymouth	1.55	1.45
Princeton	2.02	2.07
Waterloo	1.10	1.55
Wooster	2.15	2.15

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	2.05	...
33 to 35.9	1.95	...
32.9 and below	1.85	...

CALIFORNIA

(Crude oil prices at well)

Los Angeles and Orange Counties

14 to 19.9 gravity	$1.25	$1.00
20 to 20.9 gravity	1.27	1.01
21 to 21.9 gravity	1.30	1.02
22 to 22.9 gravity	1.33	1.03
23 to 23.9 gravity	1.36	1.05
24 to 24.9 gravity	1.40	1.07
25 to 25.9 gravity	1.44	1.10
26 to 26.9 gravity	1.48	1.13
27 to 27.9 gravity	1.52	1.16
28 to 28.9 gravity	1.56	1.19
29 to 29.9 gravity	1.60	1.22
30 to 30.9 gravity	1.64	1.25
31 to 31.9 gravity	1.68	1.28
32 to 32.9 gravity	1.72	1.31
33 to 33.9 gravity	1.76	1.34
34 to 34.9 gravity	1.80	1.40
35 gravity and above	1.85	1.40
Fuel Oil	1.65	...

Rosecrans Field

36 to 36.9 gravity	$1.92
37 to 37.9 gravity	2.00
38 to 38.9 gravity	2.08
39 to 39.9 gravity	2.16
40 to 40.9 gravity	2.24
41 to 41.9 gravity	2.32
42 and above	2.40

MID-CONTINENT

(Prairie Prices)

Below 30 gravity	1.35	$ ...
30 to 32.9 gravity	1.55	...
33 to 35.9 gravity	1.80	...
36 to 38.9 gravity	2.00	...
39 to 41.9 gravity	2.25	...
42 and above	2.35	...

	Apr. 17 1925	Apr. 17 1924
(Sinclair Prices)		
Below 30 gravity	1.35	...
30 to 32.9 gravity	1.55	...
33 to 35.9 gravity	1.80	...
36 to 38.9 gravity	1.95	...
39 to 41.5 gravity	2.25	...
41.6 and above	2.35	...
(Texas Company Prices)		
Below 30 gravity	1.35	...
30 to 32.9 gravity	1.55	...
33 to 35.9 gravity	1.80	...
36 to 38.9 gravity	2.00	...
39 to 41.5 gravity	2.25	...
42 and above	2.35	...
(Magnolia Petroleum Co.)		
Under 28 gravity	1.00	...
28 to 30.9 gravity	1.35	...
31 to 32.9 gravity	1.55	...
33 to 35.9 gravity	1.80	...
36 to 38.9 gravity	2.00	...
39 to 41.9 gravity	2.25	...
42 and above	2.35	...
Corsicana, light	2.00	...
Corsicana, heavy	1.00	...
Mexia	2.00	...
Thrall	1.00	...
Wortham	2.00	...

NORTH CENTRAL TEXAS

(Humble Oil & Refining Co.)

Corsicana, light (Powell)	2.00	2.00
Mexia	2.00	2.00
Currie	2.00	2.00
Richland	2.00	...
Wortham	2.00	...

RANGER

(Humble Oil & Ref. Co.)

30 and below	$1.35	...
30 to 32.9	1.55	...
33 to 35.9	1.80	...
36 to 38.9	2.00	...
39 to 41.9	2.25	...
42 and above	2.35	...

WICHITA AND ARCHER COUNTIES

(Texas)

(Humble Oil & Ref. Co.)

30 and below	1.35	...
30 to 32.9	1.55	...
33 to 35.9	1.80	...
36 to 38.9	2.00	...
39 to 41.9	2.25	...
42 and above	2.35	...
Moran Crude		
30 and below	1.35	...
30 to 32.9	1.55	...
33 to 35.9	1.80	...
36 and above	2.00	...

SOUTH TEXAS

Mirando (Texpata)	1.00	.80
Mirando (Magnolia)	1.00	...

SOMERSET

(Grayburg Pipe Line Company)

30 and below	1.35	...
30 to 32.9	1.55	...
33 to 35.9	1.80	...
36 to 38.9	2.00	...
39 to 41.9	2.25	...
42 and above	2.35	...

GULF COAST

Grade "A"	1.75	2.00
Grade "B" at Blue Ridge, Hull and Pierce Junction	1.50	1.70
Big Lake (Reagan County)		
36 to 38.9	$2.00	...
39 and above	2.25	...

LULING

Based on Contract	1.50	...
Lockhart	2.00	...

	Apr. 17 1925	Apr. 17 1924
LOUISIANA-ARKANSAS		
Caddo		
38 gravity and above	2.05	...
35 to 37.9 gravity	1.95	...
32 to 34.9 gravity	1.85	...
Below 32 gravity	1.70	...
Homer		
35 gravity and above	1.80	...
33 to 34.9 gravity	1.70	...
31 to 32.9 gravity	1.60	...
Below 31 gravity	1.45	...
COTTON VALLEY		
All grades	1.00	...
Haynesville		
33 gravity and above	1.70	...
Below 33 gravity	1.60	...
Bull Bayou		
38 gravity and above	1.85	1.80
35 gravity to 37.9	1.70	1.65
32 to 34.9 gravity	1.55	1.50
De Soto crude	1.90	1.85
Crichton	1.70	1.65
Bellevue	2.00	1.75
Jennings	2.00	2.00
Vinton	2.00	2.00
Edgerly crude	2.00	1.80
SMACKOVER		
Louisiana, Atlantic, Shreveport-Eldorado		
28 and above	1.45	...
27 to 27.9	1.35	...
26 to 26.9	1.25	...
25 to 25.9	1.15	...
Below 25.0	1.00	...
Standard, Texas, Gulf		
28 and above	1.30	...
27 to 27.9	1.25	...
26 to 26.9	1.20	...
25 to 25.9	1.10	...
Below 25.0	.90	...
El Dorado		
33 gravity and above	1.70	...
Below 33 gravity	1.60	...
East Field (Calion)	1.00	...
Stephens District		
26 gravity and above	1.60	...
Below 26 gravity	1.40	...
WYOMING-MONTANA		
Wyoming		
Byron	2.10	...
Ferris	1.30	...
Elk Basin	2.15	1.95
Grass Creek	2.15	1.95
Rock Creek	2.00	1.70
Lost Soldier	1.28	...
Lance Creek	2.15	1.90
Mule Creek	1.50	1.10
Notches	.65	...
Big Muddy	2.00	1.50
Salt Creek	2.00	1.60
Osage	2.15	1.75
Hamilton Dome	2.00	1.40
Pilot Butte	1.35	1.10
Torchlight-Greybull	2.00	1.95
Lander	.70	.70
Montana		
Sunburst	1.40	1.05
Cat Creek	2.15	1.80
NEW MEXICO		
Hogback	2.20	...
CANADIAN CRUDE*		
Oil Springs	2.70	2.73
Petrolia	2.63	2.68

*Bounty on Canadian crude is ¼ cent per gallon, or 25¼ cents per barrel.

SINCLAIR OPALINE MOTOR OIL

REG. U.S. PAT. OFF.

YOU have that feeling of satisfaction that comes with doing your neighbor a good turn, when you sell him Sinclair Opaline Motor Oil—You know its performance will bring him back.

Sinclair Opaline Motor Oil *fits the degree of wear* in his engine.

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SINCLAIR REFINING COMPANY

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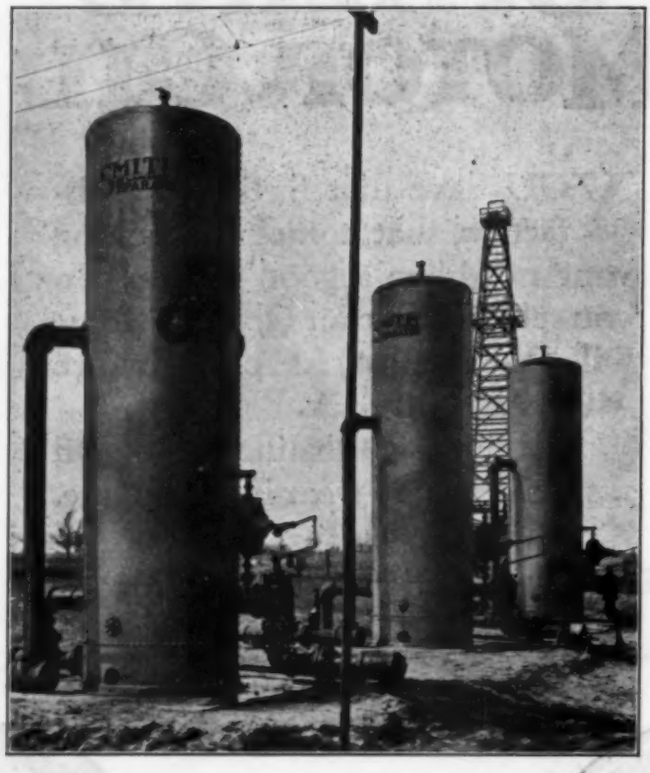
CHICAGO
22nd and Rockwell Streets
Telephone: Crawford 2000

Cable Address: "Lucent"

SINCLAIR OILS

SMITH OIL AND GAS SEPARATOR



Smith Separators on Empire lease, Cromwell, where they are as elsewhere increasing the gravity of the crude and securing free gas and eliminating fire hazard

Conservation Thrice Over

Made in Four Types

Type 10—Capacity 25,000 bbls. oil, 100 million cu. ft. gas.

Type 1—Capacity 5000 bbls. oil, 10 million cu. ft. gas.

Type 2—Capacity 2000 bbls. oil, 5 million cu. ft. gas.

Type 3—Capacity 500 bbls. oil, 1 million cu. ft. gas.

SMITH SEPARATOR COMPANY

Chestnut & Smith Corp., Bldg. TULSA, OKLA. Telephone 6221

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Export Representative:
Oil Field Equipment Co.,
30 Church St., New York
Cable Address: "Oilfields" N. Y.

Colorado Office:
434 U. S. National Bank Bldg.
Denver, Colorado

California Office:
2041 E. 38th St., Los Angeles California

Texas Office:
5400 Columbia Ave., Dallas, Texas

London Office:
Perkins & MacIntosh
Petroleum Tool & Boring Co., Ltd.
25 Bishopgate
Cable Address: "Oleborers" London

AVERAGE DAILY PRODUCTION FOR U.S.

Mountain States

Daily pipe line runs for the past week in the Rocky Mountain States increased sharply over the previous week, due to the unseasonably warm weather which prevailed. Runs for both weeks follow:

WYOMING

	Past Week	Prev. Week
Salt Creek	63,410	59,430
Grass Creek	4,825	4,470
Lost Soldier	4,200	4,250
Big Muddy	3,240	3,355
Rock River	2,890	3,275
Teapot	2,160	1,920
Elk Basin	950	900
Lance Creek	645	640
Hamilton Dome	570	875
Osage	375	350
Lander	250	260
Greybull	110	100
Rex Lake	100	100
Poison Spider	90	85
Ferris	55	65
Pilot Butte	45	35
Wyoming Totals	83,915	80,110

COLORADO

Fort Collins	1,180	1,575
Craig	790	720
Florence	240	245
Tow Creek	160	165
Rangely	110	100
Boulder	25	30
Colorado Totals	2,505	2,835

MONTANA

Cat Creek	3,180	3,300
Kevin-Sunburst	2,950	3,075
Montana Totals	6,130	6,375

NEW MEXICO

Artesia	740	685
Rattlesnake	500	550
Hogback	600	500
New Mexico Totals	1,840	1,735
Miscellaneous	200	200
Grand Total	94,590	91,255

Kansas

Greenwood	23,700	23,740
Eldorado	13,925	13,865
Rainbow Bend	11,650	12,190
Elbing and Peabody	5,750	5,700
Augusta and Douglas	3,290	3,275
Fox-Bush	3,050	3,100
Blankenship	2,440	2,450
Florence and Covert	2,150	2,100
Other fields	17,640	16,520
Totals	83,795	82,940

California

Los Angeles, Calif., April 11.—Daily average production of the California fields the past week, compared with the previous week, with number of producing wells in several fields, was about as follows:

Field—	Past Week	No. Prod. Wells	Prev. Week
Long Beach	113,500	510	114,000
Santa Fe Springs	51,000	350	46,500
Dominguez	48,500	58	46,000
Huntington Beach	42,000	288	45,000
Torrance	40,000	545	39,000
Rosecrans	18,000	43	19,000
Inglewood	2,000	14	2,400
Other fields	288,000	...	288,000
Totals	603,000		599,900

Oklahoma

	Past Week	Prev. Week
Tonkawa	75,055	78,035
Burbank	61,315	59,620
Bristow	45,820	45,900
Cromwell	39,725	34,585
Osage (outside Burbank)	34,250	34,100
Gilcrease-Papoose	25,575	27,270
Okmulgee	23,800	23,580
Cushing	22,200	22,245
Hewitt	15,740	15,895
Wewoka	12,170	11,890
Otoe	7,800	7,860
Stroud	3,460	3,235
Braman	2,565	2,350
Other fields	86,235	84,100
Totals	456,710	450,665

Louisiana

Haynesville	13,745	13,750
Caddo Light	9,070	9,350
Cotton Valley	8,350	9,375
Homer	6,950	6,965
Vinton	5,900	5,910
Bull Bayou	4,550	4,550
Bellevue	3,850	4,025
Caddo Heavy	2,270	2,190
Evangeline	1,075	1,025
Elm Grove	645	650
Edgerly	1,000	475
Lockport (Lake Charles)	225	235
Anse La Butte	20	20
Totals	57,650	58,520

Arkansas

Smackover Heavy	95,000	75,575
Smackover Light	33,315	31,400
El Dorado	8,640	8,880
Stephens	1,975	2,010
Irma	1,400	1,455
Totals	140,330	119,320

Texas

GULF COAST

	Past Week	Prev. Week
Hull	28,500	29,900
Orange	13,900	13,525
South Liberty	13,045	13,385
West Columbia	12,275	12,365
Goose Creek	9,900	9,050
Humble	4,725	4,875
Sour Lake	4,225	4,240
Blue Ridge	2,300	1,550
Batson	1,550	1,570
Spindletop	1,300	1,265
Saratoga	1,850	1,850
Damon Mound	1,150	1,240
Pierce Junction	625	610
Big Creek	500	590
Barbers Hill	140	100
Markham	80	200
Nacogdoches	30	30
High Island	60	50
Totals	96,155	96,395
Luling	29,800	29,300
Mirando	11,000	9,700
Lockhart (Lytton Springs)	4,200	210
Somerset	2,980	2,960
*Misc. South Texas	860	760
Totals	48,840	42,930
Totals Texas	436,015	434,995

*Includes Rockdale, Callahan and Minerva.

NORTH-CENTRAL

Wortham	63,000	66,300
Corsicana-Powell	53,090	53,815
Archer County	40,100	40,305
Mexia	19,450	19,900
Electra	17,300	17,520
Stephens County	15,955	16,285
Burkburnett	14,710	15,150
Reagan County	14,055	13,820
Eastland County	10,415	10,425
Young County	10,425	9,685
Richland	6,400	6,750
South Vernon-Wilbarger Co.	6,475	6,115
K-M-A and Iowa Park	4,170	4,230
Callahan County	3,930	3,750
Panhandle District	2,775	3,045
Moran-Shackelford County	2,745	2,745
Mitchell County	1,775	1,805
Brown County	1,260	1,175
Currie	1,580	1,160
Strawn-Palo Pinto County	645	645
Petrolia-Clay County	535	365
Montague County	70	75
Coleman County	70	70
Thrall-Williamson County	40	30
Jack County	20	25
Throckmorton County	20	20
Scurry County	10	10
Totals	291,020	295,670

Condensed U. S. Production for Twelve Months

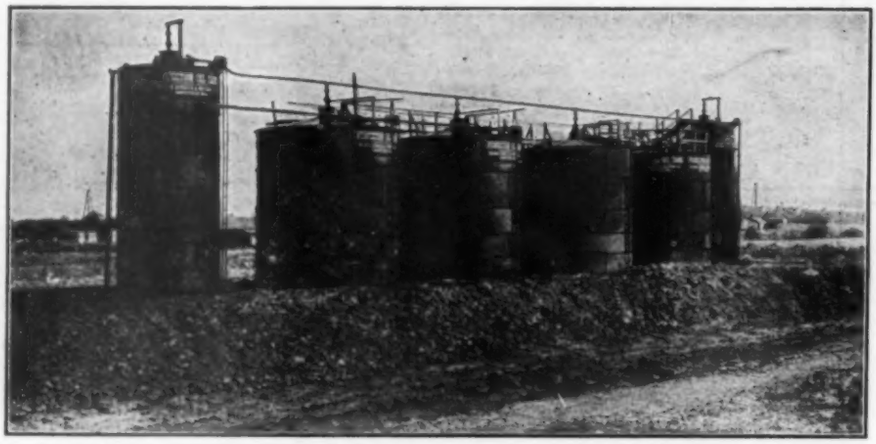
(Stated in Barrels)

This table is compiled each week by The OIL WEEKLY, and shows daily production average for each state or section.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyo. Mont. Colo. New Mexico	Calif.	Ark.	U. S. Total
March	762,684	284,874	78,567	388,221	69,864	407,946	55,783	97,800	128,352	650,790	119,869	1,917,023
April	777,590	276,595	76,755	380,005	71,015	429,980	54,740	101,250	127,700	649,825	128,750	1,943,270
May	763,320	267,475	74,175	374,915	71,490	424,355	60,655	103,800	127,770	640,930	148,630	1,952,545
June	799,230	260,785	74,335	375,310	74,265	464,175	62,660	105,750	125,735	628,400	157,165	1,993,465
July	815,830	254,665	75,445	378,365	81,545	479,620	63,855	107,175	124,305	620,175	148,655	2,003,695
August	861,640	254,520	75,700	377,045	85,765	521,355	62,595	107,000	123,895	619,200	142,740	2,037,890
September	886,650	253,243	76,953	366,197	86,758	546,647	62,162	107,622	117,345	611,500	131,343	2,029,580
October	855,823	247,222	75,713	359,861	86,884	521,717	62,493	106,600	107,270	605,060	123,235	1,972,902
November	851,733	248,467	71,648	369,621	86,031	517,237	66,117	106,375	91,205	594,000	119,893	1,950,478
December	873,344	267,065	65,437	385,410	88,065	518,213	59,602	106,875	83,472	606,875	111,402	1,959,917
January	906,160	334,305	65,065	448,900	88,390	483,465	56,520	106,200	78,435	602,600	106,280	1,970,350
February	861,130	292,796	63,885	405,195	88,790	479,545	56,825	105,125	87,710	592,375	106,085	1,927,680
March	839,200	301,795	83,800	434,410	84,965	452,440	58,030	100,550	90,900	605,775	112,425	1,939,520
April 4	829,275	295,670	96,605	434,995	82,940	450,665	58,520	100,000	91,155	599,900	119,320	1,937,495
April 11	831,525	291,020	96,155	436,015	83,795	456,710	57,650	97,000	94,590	603,000	140,330	1,969,090

*Includes North Central Texas, Kansas, Oklahoma.
NOTE—Wortham, Corsicana-Powell and Mexia production included in North Central Texas.

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS



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COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Product'n This Week	Initial Product'n Last Week
Oklahoma	120	107	71	71	9	6	40	30	21,533	13,971
Kansas	32	40	22	18	1	1	9	21	3,245	3,562
Texas	154	151	98	94	9	10	47	47	35,820	24,575
Arkansas	35	23	27	18	..	..	8	5	101,290	12,295
Louisiana	12	8	8	5	1	1	3	2	1,325	505
Eastern States	172	127	86	71	52	26	34	30	1,344	1,671
Mountain States	8	13	7	11	..	..	1	2	1,800	1,175
California	11	16	11	16	..	..	..	..	4,460	5,250
Totals	544	485	330	304	72	44	142	137	170,817	63,004

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudded; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo—workover; wosr—waiting on standard rig.

Texas

YOUNG COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
C. Andrade et al Gose 1	*	1405
Burton et al Weaver	*	1503
Humble Oil & Ref. Co. Schlegel 4	45	1186
Marland Oil Co. Harrison 1	*	3065
Cliff Mooers et al Kunkel 1	*	1306
Murchison-Fain et al Schlegel 8	90	1178
Schlegel 11	300	1197
Norton et al Hamilton 2	300	1203
Hamilton 3	200	1202
Panhandle Ref. Co. Gambrell 3	400	1210
Rotmer Oil Co. Stewart 4	*	894
Simms Oil Co. J. D. Capenter 3-B	500	1035
J. D. Carpenter 4-B	350	1041
The Texas Co. W. E. Gambrell 13	230	1224
Texhoma Oil & Ref. Co. Gambrell 8	125	1234

SOUTH VERNON (Wilbarger County)

Company, Well and Location	Initial Production Bbls.	Depth
Atlantic Oil Prod. Co. Waggoner 1, (sec 51)	55	1427
Carl Zipperle 2	100	1324
Bridwell-Heydrick et al Dill 5	300	2305
W. H. Stephens 7	280	2303
Gulf Production Co. Waggoner 1-R, (sec 50, blk 14)	140	1796
Humble Oil & Ref. Co. Stephens 6	15	2063
Stephens 19	200	1316
Castleberry 12	500	1316
C. F. Kolp et al Waggoner 3	200	2029
Waggoner 4	15	1285
McCamey-Sherrin & Lucey W. H. Stephens 10	75	1356
Ray-Massie et al Bond 3	35	2058

ARCHER COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Atlantic Oil Prod. Co. W. F. Parrish 6-A	200	1565
W. F. Parrish 2-C	*	1642
Burns & Maxson et al W. F. Parrish 1	*	1623
Clark et al Rogers 2	*	1397
Rogers 3	30	1341
Comac Oil Co. V. Seay 1	*	1704
Continental Oil Co. H. Harmel 9	*	1279
County Line Oil Co. Stampfli 2-B	*	1398
Roy I. Carter-Myers et al L. F. Wilson 1	*	1601
Grisham et al Hayter 4	10	1370
Gulf Prod. Co. L. W. Kunkel 1	20	1206
G. H. Roach 1	*	1321
J. F. Rogers 3-A	90	1324
Gwynn et al Rogers 3-A	65	1374
Humble Oil & Ref. Co. Stampfli 8	*	1495
Stampfli 9	15	1380
Stampfli 10	50	1372
Magnolia Pet. Co. Kate Rogers 4	30	1331
Murchison-Fain & Marland Oil Co. H. Harmel 4-A	*	1304
Major Pet. Co. Cowan-Turbeville 1, dd	210	1084
Oasis Oil Co. T. B. Wilson 1	*	1676
Phillips Pet. Co. J. H. White 8-C	*	1652
Prairie Oil & Gas Co. L. F. Wilson 9-A	30	1393
Riner-Bailey et al L. F. Wilson 15-B	135	1622
L. F. Wilson 25-B	90	1621

Artesia Pool Gets Best Well in New Mexico

Artesia, New Mexico, April 16.—New Mexico's largest producing oil well came in late Sunday with the completion of the Maljamar Oil Company's No. 1, in the south half of the northwest of 28-18-28 for a production of 1400 barrels daily.

No. 1 Beeson, in the southeast corner of the northeast of the southeast of 18-18-28 topped the sand at 2095 feet late last week and filled with oil up to 1800 feet. It was then drilled to 3006 feet and made 300 barrels daily.

The Maljamar well is on the east side of the Artesia field of Eddy County, New Mexico, and the Danciger on the west.

Pipe line runs in New Mexico are steadily increasing. New wells are coming in and the older ones are holding up very well. The quality of the oil has attracted the attention of capital from all parts of the country and leases once regarded as a rank gamble are in very good demand. Recent completions have extended fields beyond the limits formerly mapped.

Pacific Oil Tool Expands

Los Angeles, Calif., April 11.—The Pacific Oil Tool Company, with plant and offices at 1928 East Seventh Street, Los Angeles, Calif., has secured additional ground adjoining the present plant and contracts have been let for the doubling of the size of the building and also greatly adding to the capacity of the plant. The present plant is now operating overtime in an effort to turn out hydraulic pumping units fast enough to meet the demand, but regardless of the overtime work, orders are behind.

Company, Well and Location	Initial Production Bbls.	Depth
Shamrock Oil Co. Richardson 17	50	1311
Richardson 18	*	1345
Shappell Oil Co. Jackson 18	150	1798
Shaw-Rathke et al Rogers 1	115	1283
Hayter 3-A	*	1365
Monohan 11-A	*	1350
Monohan 1-B	*	1348
The Texas Co. W. J. Ragle 20	100	1098
Texhoma Oil & Ref. Co. Harbinson 13	50	1340
Morrison 1	*	1555
Union Oil Co. Parrish Bros. 1	*	1603
White Bros. et al Kunkel 8	350	1158
Kunkel 9	260	1160
Young-Looney et al C. Abercrombie 1	*	1602

BURKBURNETT

Company, Well and Location	Initial Production Bbls.	Depth
Magnolia Pet. Co. A. Weeth 1	25	1648
Texhoma & Hunter G. W. Bailey 3	30	1340
White-Rubsam et al H. Reilly 1	*	1990

ELECTRA

Company, Well and Location	Initial Production Bbls.	Depth
Empire Gas & Fuel Co. Pierce Fee 9	60	1463
Humble Oil & Ref. Co. Douglas 17	15	1998
Magnolia Pet. Co. Rio Bravo 43	40	2156
The Texas Co. Waggoner 299	65	1672

K-M-A AND IOWA PARK

Company, Well and Location	Initial Production Bbls.	Depth
Petroleum Prod. Co. Newt Maer 13	225	1768

EASTLAND COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Kimmell et al Lamb 1	*	3105
Parsons et al J. A. Jones 1	¶4½	3124

SHACKELFORD COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Loggie & Best et al Black Bros. 1	*	1120

STEPHENS COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Hughes et al Gandy 4	¶2-5	3275
Texas Fidelity Oil Corp. Ashmore 1	*	2106
The Texas Co. J. W. Parks 42-A	¶6-5	1917
Williams et al Rosenquest 10	5	2200

GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
Spindletop—		
Stella Oil Co. McFadden 8	22	1001
Unity Oil Co. McFadden 85	15	950
Wilson-Broach Higgins 47	10	85
Saratoga—		
Weldon Oil Co. Texas Co. 2, wo	15	1475
Bradley 6, wo	24	1600
Batson—		
Acorn Oil Co. Paraffine 54	5	675
Goose Creek—		
Gulf Coast Oil Corp. Gaillard 31	42	2600
Gulf Production Co. Paddock Smith 5, wo	250	1870
C. Gaillard 10-A, wo	25	2950
Hull—		
Gulf Production Co. J. C. Baldwin Fee 11, wo	2000	3100
Higgins Oil and Fuel Co. Republic		

Company, Well and Location	Initial Production Bbls.	Depth
3, wo . .	35	2150
Orange—		
Gulf Production Co. Hager-Moore 4, wo . .	40	3640
Lee Hager Fee 7 .	315	3500
Mutual Oil Co. Chesson 7, wo	10	4650
Gulf Production Co. Chesson 4-A...	150	4722
West Columbia		
Humble O. & R. Co.'s No. 10 T. & W.	*	1370
No. 11 T. & W.	16	370
George Hyde Prod. Co.'s No. 2 McGregor .	*	772
South Liberty—		
Mills Bennett's No. 5 Pickett	750	3500
No. 7 Pickett	900	3525
No. 8 Pickett	500	3540
Vacuum Oil Co.'s No. 5 Barrett....	850	3490
The Sun Oil Co.'s No. 1 Shade..	1600	3420

SOUTH LOUISIANA

Edgerly—		
Gulf Refining Co. of Louisiana's No. 32 Bright Penn (wo).....	600	3200
Vinton—		
Marrs McLean's No. 1 Gray (wo)..	*	1850
Seiss Oil Synd.'s No. 5 Green (wo)	60	2600

TEXAS MISCELLANOUS

Lockhart—		
The Sun Oil Co.'s No. 1 Gomillion	330	1250
No. 2 Gomillion	2800	1275
Mid-Kansas Oil & Gas Co.'s No. 1 Brewer .	70	1260
Marland-Cranfield-Reynolds No. 1 Gomillion .	3000	1275
Lockhart—		
The Sun Co. Gomillion 1.....	960	....
Gomillion 2 . .	2800	....
Marlin-Cranfield-Reynolds et al F. A. Gomillion 1 .	3000	....
Webb County—		
Rydall Oil Co. Puig 2.....	100	....

NORTH TEXAS

Currie—		
Ben Strotman & Smith's No. 1 Ebb Bounds .	*	3100
Richland—		
Boyd Oil Co.'s No. 10 Webb	90	2963
Powell—		
Garland Kent et al's No. 1 Bressie..	*	1155
Wortham—		
Humble O. & R. Co.'s No. 12 Ella Dodd .	125	3020
Magnolia Pet. Co.'s No. 26 Boyd...	100	3025
Pure Oil Co.'s No. 10 Boyd	200	3010
No. 20 Boyd	76	3010
The Texas Co.'s No. 5 Bounds.....	175	2980

Louisiana

Caddo Parish—		
Standard Oil Co.'s Stiles 170, 27-21-16 .	300	2395
Cotton Valley Field—		
M. J. Derryberry et al's Smith A-1, 29-21-10 .	100	2579
Humble Oil & Refining Co.'s Bodcau B-15, 28-21-10	100	2576
Gray 4, 26-21-10	200	2520
Louisiana Oil Ref. Corp.'s Crichton 3, 21-21-10	150	2538
Ohio Oil Co.'s Bodcau 25, 28-21-10.	115	2577
Ruston Drilling Synd.'s Cox 1, 15-21-10 .	*	2540
Total, 6 wells	665	
Monroe Gas Field—		
Southern Carbon Co.'s Fee 46, 31-19-4e .	¶5	2221

EAST TEXAS COMPLETIONS

Waskom Gas Field—		
Ferguson et al's Jones 1, J. Lipscomb Survey	¶4	1953
Panola Oil Co.'s Moore 1, R. W. Bedford Survey	¶8	966
Waterman Drilling Co.'s Abney 1, J. J. Blair Survey	¶15	1894
Total, 3 wells .	¶27	
Panola Gas Field—		
Houston et al's Tiller 1, J. Storey Survey .	¶3	1000

Arkansas

Smackover Field, Ouachita County—		
Bray & Hawthorne's Elliott 1, 11-15-17 .	*	2535
Clark & Melat's Murphy 1, 4-16-15.	1800	*2344
Forest City Box Co.'s Fee 5, 31-15-16 .	125	2265
Gulf Ref. Co.'s Hardin 5, 28-15-16..	50	2311
Werner 32, 32-15-16	25	2269
J. K. Hughes' Reeves 2, 28-15-16..	40	2258
Hunt et al's Haltom B-8, 26-15-17..	60	2370
Haltom B-9, 26-15-17	75	2387
Street 2, 26-15-17	50	2385
Kelley et al's Wells 1, 23-15-17.....	30	2307
Reynolds et al's Berg 1, 27-15-17....	20	2362
Southern Oil Co.'s Hoffman 1, 22-15-17 .	*	2425
Sun Co.'s Hardin 5, 22-15-16	75	2255
Texas Pacific Coal & Oil Co.'s Laney 1, 31-15-15	*	2104
Smackover Field, Union County—		
Amerada Pet. Corp.'s Calloway 2, 4-16-15 .	8000	*2549
J. W. Clark et al's Alphin 3, 19-16-15	*	2071
Gulf Ref. Co.'s Murphy 7, 5-16-15..	700	*2369
Murphy 9, 3-16-15 .	1000	*2356
Murphy 14, 4-16-15 .	25000	*2352
Werner 35, 6-16-16 .	20	2257
Werner 38, 5-16-16	75	2255
Hollifield et al's Giller 8, 10-16-15...	150	*2402
Giller 9, 10-16-15	45	1999
Imperial Oil & Gas Co.'s Murphy 2, 9-16-15 .	24000	*2448
Lion Oil & Ref. Co.'s Graves 7, 3-16-15 .	2500	*2362
Ohio Oil Co.'s Ballard 3, 14-16-15..	50	1982
Murphy 4, 9-16-15	900	*2394
Pate 6, 10-16-15	1500	*2389
Roger et al's LeCraig 2, 17-16-15...	*	2093
Roxana Pet. Co.'s Murphy 1, 9-16-15 . .	20000	*2385
The Texas Co.'s Graves 7, 3-16-15 ..	5000	*2382
Graves 9, 3-16-15 . .	10000	*2392
Total, 32 wells	101,290	

*Denotes "deep sand" wells.

Oklahoma

Burbank Field—		
Phillips Pet. Co.'s No. 1, SWc 12-27-5 . .	50	3037
No. 7, C NW SE SW 12-27-5 ...	250	3054
No. 8, C E L N½ SE SW 12-27-5 . .	1100	3043
No. 10, C SE NW SW 12-27-5 ..	625	3040
No. 11, C SW NE SW 12-27-5 ..	275	3038
No. 14, C N L E, NW SW 12-27-5 . .	600	3032
No. 16, NEc NE SW 12-27-5 ...	300	3060
Carter Oil Co.'s No. 3, C N L W½ NE NW 21-26-6 . .	392	2984
Carter County—		
Amerada Pet. Corp.'s No. 8 Clay, C S L SW NE 28-5s-1 .	225	1179
No. 10 Clay, C S½ NW NE 28-5s-1 . .	*	942
Levant's No. 2 Brewer, C SW NW SW 27-1s-3w . .	140	3250
Magnolia Pet. Co.'s No. 3 Hart, C NE SW NE 32-1s-3w .	175	2749
Simpson Fell's No. 1, Lowery, SEc SW NW 9-4s-2w . .	200	2402
Creek County—		
Midwest & Gulf's No. 1 Murrell, SWc SW NE 17-19-9 . .	5	1226
Jomac Oil Co.'s No. 4 Mitchell, SEc NE SW 17-15-8 . .	40	3840
Phillips Pet. Co.'s No. 1 Wattie, NWc NW NE 31-15-8 .	35	2616
Skelly Oil Co.'s No. 4 McKann, C SW NE SW 12-14-8 . .	100	2479
Skelly & Billingslea's No. 3 Fields, C N L SW SE 30-15-9	*	3028
The Texas Co.'s No. 5 Bartlett, NWc NE SW 27-14-8	20	2491
C. G. Tibbens' No. 6, C S L NW SE 30-15-9 . .	560	3021
Waite Phillips' No. 2 Hill, C E L NW SE 6-16-9 . .	100	2745
Wolfe's No. 2, C W L N½ SE NE 6-16-9 . .	9	2775
Buckeye Drilling Co.'s No. 2 Carolina, C E L S½ NW NE 1-19-9..	35	1936
Gled Oil Co.'s No. 1 Tucker, NEc NE SW 17-19-9 . .	¶	2230
Atlantic Oil Prod. Co.'s No. 2 Johnson, C S L SW SE 14-17-8	125	2768
Savoy Oil Co.'s No. 5 Johnson, C N L NW NE 23-17-8 . .	50	2278
Garvin County—		
Carter Oil Co.'s No. 5 Derdyn, C SW SW NW 17-1n-3w .	40	1627
Hughes County—		
T. B. Slick's No. 1 Smith-Brook, C SE SE NW 15-9-9 . .	*	3432
Magnolia Pet. Co.'s No. 1 Baker C NE SE SW 4-9-11 . .	65	3051
Kay County—		
Prairie O. & G. Co.'s No. 1 Kiefer, C W L S½ NE SE 13-27-1	*	2502
McMann Oil Co.'s No. 5 Warren, SWc SE SE 27-25-1w .	*	3455
Comar Oil Co.'s No. 3w Endicott, SEc NE SW 35-25-1w .	*	1963
No. 4w Endicott, NWc SW SE 35-25-1w .	*	1914
No. 5w Williamson, C S L W½ NW SE 35-25-1w . .	*	2545
No. 6w Williamson, SEc SW SE 35-25-1w .	*	1544
No. 2 Kincaid, SWc SE NE 21-29-1w . .	112	2108
No. 4 McCormick, SWc NW SE 21-29-1w .	165	1928½
Marland Oil Co.'s No. 1a, SEc NE NE 27-27-3 .	*	385
No. 1 Chambers, SWc NW NE 9-25-2w . .	*	1615
Una Lee Oil Co.'s No. 1 Johnson, NEc 18-27-1w . .	112	3486
O'Kansas Oil Co.'s No. 1 Townsend, NEc NW NE 28-26-2w .	*	4261
Wentz Oil Corp.'s No. 49 McKee, C SW NE SW 34-25-1w .	1682	4281
No. 48 McKee, C N L SW 24-25-1w . .	2592	4280
Carter Oil Co.'s No. 11 Stewart, SWc SW NW 35-25-1w	*	4700
No. 12 Stewart, SEc SW NW 35-25-1w . .	*	4365
Kiowa County—		
Sun Ray et al's No. 1 Ershine, SWc SW NE 3-7n-17w .	*	3737
Lincoln County—		
Magnolia Pet. Co.'s No. 1 Smith, SWc SW SE 34-15-5 .	330	3471
Prairie O. & G. Co.'s No. 1 Start, NEc NE NW 3-14-5 . .	552	3465
Muskogee County—		
Vogler & Leightener's No. 3, C N L NE SW 19-14-16 . .	20	1785
Noble County—		
Comar Oil Co.'s No. 15w Ellsworth, C S L NE 2-24-1w .	*	4078
Okfuskee County—		
Sterling O. & G. Co.'s No. 1 Cable, C SE SE SE 33-10-11 .	¶	1572
Independent O. & G. Co.'s No. 1 Carolina, NEc SW SW 33-12-11	¶	3048
Sinclair O. & G. Co.'s No. 1 Steddard, C NE NE SE 22-12-9 . .	*	1030
Cussack's No. 6 Hopward, NWc NW NE 11-11-11 .	35	1275
Carter Oil Co.'s No. 1, C SE SE NE 35-10-12 . .	¶	4815
Okmulgee County—		
J. S. Hass et al's No. 10 Colbert, NE NW NW 15-14-14 .	50	1540
Eastern Oil Co.'s No. 10 Jefferson, C NE NE NW 32-15-11 .	*	2530
Shaffer O. & R. Co.'s No. 1 Coleman, SWc SW SE 27-16-12 .	*	2637
Sheridan & Turner's No. 2a, SWc SW SE 35-16-12 . .	75	2044

Company, Well and Location	Initial Production Bbls.	Depth
Oklahoma Eastern's No. 2 Tiger, NEc NE SW 24-16-12	*	2311
Magnolia Pet. Co.'s No. 1 Kanard, C S L E½ SW SW 28-13-12	*	1640
Sims Oil Co.'s No. 10 Rentie, C SW SW NW 31-12-12	565	3295
Superior et al's No. 4 Morey, C N L SW NE 34-16-12	15	2188
Wooster Oil Co.'s No. 4 Burner, C W L SW SW 11-11-13	¶	2287
Anglo-Tex's No. 5 Coleman, C SE SE SW 29-15-11	*	3024
C. F. Noble's No. 2, SEc NE SE 19-15-12	¶	1065
Kirkland & Sons' No. 1, NEc NE SE 17-15-13	*	2561
Wood Oil Co.'s No. 1 Thompson, SWc SW SE 14-13-11	*	2565
Eagle Picher's No. 3, C E L NW NW 33-13-12	*	2454
Calvin Smith's No. 1 Bird, NWc NE NW 5-12-12	¶	2341
Morton & Co.'s No. 2 Fisher, C E L SE NW 7-12-12	150	2662
C. E. Campbell's No. 2 Sampson, NEc SW NW 30-13-15	¶	800
Caskey et al's No. 2 Hawkins, C W L S½ SW NE 4-11-12	20	1542
Osage County—		
American O. & Dev. Co.'s No. 18, C S L E½ NE 13-23-10	23	1861
Wiser O. Co.'s No. 6, C N L W½ SE NW 27-29-11	40	974
Phillips Pet. Co.'s No. 2, C N L E½ NW NE 34-29-11	50	1013
Duffield-Howard's No. 2, C E½ SW SE 28-28-11	10	1010
Fidelity Oil Co.'s No. 8, C W L NE 16-21-12	25	1605
Selby O. & G. Co.'s No. 8, NEc NW NW 16-21-12	10	1345
Elliott & Smith's No. 3, SEc NE NW 30-21-12	15	2025
Gray Oil et al's No. 7, C W L S½ NE 28-20-11	50	2400
Winona Oil Co.'s No. 20, C W L S½ SW NE 9-20-12	30	1989
Okla. Nat. Gas Co.'s No. 679, SWc SW NE 29-20-12	¶	1300
Vickers et al's No. 1, SWc 31-25-7	*	2865
Pure Oil Co.'s No. 5 Waxwell, C E L N½ SW 31-24-4	5	2710
Winona Oil Co.'s No. 11, SWc SW SE 28-24-10	10	1398
Riverland Oil Co.'s No. 1, C S L NW NW 10-22-10	*	2247
Ind. Terr. Ill. Co.'s No. 1, SWc NW NW 1-21-8	160	2409
Breene et al's No. 5, C S L E½ SW 22-21-10	35	1627
Pawnee County—		
Carter-Donahoe's No. 1, C NW NW SE 22-23-4	100	3730
Flight & Nixon's No. 1 Armstrong, NWc 21-21-7	*	3293
Tidal Oil Co.'s No. 12 Hamilton, SWc NW NE 24-20-8	1565	2773
Twin States Oil Co.'s No. 6 Fleming, NWc SE SE 8-20-7	40	2671
Pontotoc County—		
Bronson et al's No. 1 Brown, C SE SW SE 32-5-5	*	2065
Seminole County—		
Pure Oil Co.'s No. 1 Jackson, C SE SE SW 33-11-8	*	1427
Sinclair O. & G. Co.'s No. 6 Pierce, C NE NE SE 33-11-8	50	3425
Carter Oil Co.'s No. 5 Dunn, C SW SE NW 3-10-8	643	3426
No. 6 Dunn, C NW NW NW 3-10-8	702	3439
No. 7 Dunn, C SE SE NW 3-10-8	1200	3451
Sinclair-Gardner's No. 2 Hill, C SE SW 34-11-8	728	3390
No. 7 Hill, C SE NW SW 34-11-8	501	3392
Southwestern Pet. Co.'s No. 1 Little, C NW NW SE 3-10-8	2503	3447
McMann Oil Co.'s No. 2, C NW SE SW 34-11-8	750	3398
W. R. Ramsey's No. 1 Bowlegs, C NW NW NW 31-8-8	*	3421
Dixie Oil Co.'s No. 1 Parker, NEc NE SW 32-8-8	40	2822
No. 3 Walker, C NW NE NW 32-8-8	175	3188
Wilcox O. & G. Co.'s No. 1, C NE NE NW 32-11-7	*	4014
Stephens County—		
Smith Law Oil Co.'s No. 4 Brymer, NWc NE NE 31-1n-8w	30	2114
Magnolia Pet. Co.'s No. 10 Harris, C N L W½ NW NE 25-1n-9w	32	2059
Crump & Beard, No. 1a Boyd, C SW NW SW 14-1s-8w	*	1616
Tulsa County—		
Dean et al's No. 2 Freeman, SWc SW NE 24-19-14	¶	1167
Sac Fox Oil Co.'s No. 4, NEc NW SW 33-18-14	*	1562
Center Oil Co.'s No. 3 Hackey, C N L SW NW 33-18-14	10	1540
Penn Oil Co.'s No. 3a McHenry, SWc NW NE 1-17-14	*	1335
Hazlett et al's No. 2, C E L SE NE 13-17-14	*	2100
E. H. Bradley's No. 1a Squire, SWc SW 1-16-12	*	2362
C. E. Suppes' No. 1, NWc SE SW 1-16-12	*	2398
Choctaw O. & R. Co.'s No. 5 Roland, C E L E½ SE SE 13-16-12	10	1042
Wagoner County—		
McAroy's No. r McKellop, NEc SE SW 24-18-15	*	1525
J. M. Pennington's No. 4a McHenry, SWc NE SW 29-18-15	*	1898

Kansas

Chautauqua County—		
Watchorn O. & G. Co.'s No. 1, SEc SW NE 33-32-10	*	2697
Cowley County—		
Roth & Mission Oil Co.'s No. 1 Coffey, C NW SE NE 30-31-5	¶	1692
Trees Oil Co.'s No. 2 Shiffer, C SW SE NE 10-31-3	220	3031
Ark. Fuel Co.'s No. 1, C NE NE SW 26-31-3	*	3421
W. Phillips et al's No. 1 Patterson, C SE SE NE 18-33-3	*	3895
Greenwood County—		
Derby & Davis' No. 2 Kipfer, SWc NE NE 13-22-10	25	2151
Davis et al's No. 2, C SW SE SE 12-22-10	*	2285
No. 2, C W L S½ NW SW 7-22-11	125	2120
Milligan et al's No. 5 Bessie, C SE NW SE 22-22-11	150	1963
Empire Co.'s No. 15 Teeter, C NE SE NE 16-23-9	170	2401
No. 14 Teeter, C NW NE SE 16-23-9	325	2441
No. 20 Teeter, C SW SE NE 16-23-9	300	2459
N. F. Clarke et al's No. 2, C E L SE NW 15-24-12	30	1769
McGinnis et al's No. 2 Kipfer, NEc SW NE 13-22-10	150	2143
Franklin Oil Co.'s No. 2 Fleming, SWc NE NE 15-24-12	60	1746
No. 2 Meyers, NWc SW SE 10-24-12	10	1793
York State Oil Co.'s No. 15 De Malorie, C NE SE SW 32-22-11	140	2013
Rhodes & Able's No. 1 Blackburn, C SE SE NE 16-24-13	20	1650
Chas. Cross No. 1 Raglin, NWc NW SW 28-24-13	*	1642
Kettle et al's No. 2 Morris, C S L NW NW 28-24-13	*	1715
Skelly & Tidal Oil Co.'s No. 15 Wick, C NW NE NW 27-22-11	*	2194
No. 14 Wick, C NE NW NW 27-22-11	25	1943
Tidal Oil Co.'s No. 1 Teeter, C SE NE SW 10-23-9	*	2450
Skelly Oil Co.'s No. 3 Johnson, SWc NW SE 15-24-12	25	1708
Skelly Oil Co. No. 5 Teeter, C SE NW SW 15-23-9	200	2400
No. 6 Teeter, C SW NW SW 15-23-9	175	2381
Skelly & Emerald's No. 1 Teeter, C SE SE SW 10-23-9	225	2380
Skelly Oil Co.'s No. 2 Teeter, CNE NW NW 15-23-9	250	2394
Sinclair O. & G. Co.'s No. 11 Browning, C NW NE SE 19-22-10	350	2325
Transcontinental Oil Co.'s No. 4 Nuttle, C NE SE SW 2-23-9	250	3558
Woodson County—		
Ark. Fuel Co.'s Co.'s No. 2 Sanders, SWc SW NW 20-23-13	20	1744
Peerless O. & R. Co.'s No. 8 Hester, NEc SE NW 23-23-13	*	1870

Mountain States

WYOMING

Salt Creek Field—		
Kinney-Coastal Oil Co.'s No. 19-A, 19-39-78	*	3908
E. T. Williams Oil Co.'s No. 3-A, SW¼ 11-39-79	60	2270
Salt Creek Consolidated Oil Co.'s No. 16-A, SE¼ 31-40-78	40	2250
Wyoming Associated Oil Co.'s No. 13-A, SE¼ 24-40-78	60	1981
Midwest Oil Co.'s No. 19-A, SW¼ 19-40-78	50	2048

NEW MEXICO

Hogback Field—		
Midwest Refining Co.'s No. 12	1135	777

MONTANA

Kevin-Sunburst Field—		
Big West Oil Co.'s No. 6, SE¼ 31-35-1	55	....
Queen City Oil Co.'s No. 9, NW¼ 4-34-2	400	1472

California

Rosecrans—		
Hercules Gas Co.'s Athens 1 (wo)	300	4437
E. J. Miley's Athens 3	700	5232
Barnsdall's Athens 4	80	4404
Inglewood—		
Petroleum Securities' Cone 4	500	1775
Torrance—		
C. C. M. Oil Co.'s Del Amo 36	315	3679
Dominguez—		
Shell Co.'s Reyes 21 (wo)	525	4048
Reyes 24	440	4125
Union's Callender 8	1500	4270
Sunset—		
General Petroleum's Sunset 12-A	25	1085
Wheeler Ridge—		
General Petroleum's No. 3, Sec. 28-11-20	35	3783
Standard's No. 13	40	2225

Eastern States

PENNSYLVANIA

Bradford Field—		
Associated Prod. Co. Bingham 184, tract 340	4	....
Bingham 591, tract 332	25	....
Bingham 150	3	....
South Penn Oil Co., Bingham 452, tract 52	5	....
Bingham 576, tract 103	¶1	....
Bingham 150, tract 58	7	....
Shepard 1,	4	....
Melvin 1	*	....
Hodge 1	2	....
Redfield 95	2	....
Forest Oil Co. Porter 3	4	....
Porter 4	4	....
Pressure Oil Co. Howard 1	7	....
Howard 2	7	....
Mitchell & Jeutter Duke 1	4	....
McCandless & Son McCandless 3	*	....
Gridiron Oil Co. Duke 1	4	....
W. C. Kennedy Co. Kennedy 45	12	....
George & George Lafferty 1	3	....
Van Vetchen & Son Farr 1	3	....
James and R. M. George Bingham 370, tract 16	8	....
Wright & Co. South Penn, tract 16	10	....
Greene County—		
Carnegie Nat. Gas Co. N. Cassidy 1	*	....

Company, Well and Location	Initial Production Bbls.	Depth
Equitable Gas Co. S. Lemley 1	¶1½	....
H. T. Milliken & Co. William Cole 1	¶¼	....
Concord-Nenevah Oil & Gas Co. C. H. Andrews 4	¶1¼	....
New Freeport Oil & Gas Co. Gump heirs 1	¶¼	....
Manufacturers Light & Heat Co. R. P. McCracken 1	17	....
James Earnest 1	2	....
Venango County—		
E. Seiderman Hasson 48	5	....
Midland Oil Corp. Stevenson 36	7	....
Hovis & Co. Bailey 1	*	....
Williams Moore, Moore 1	¶½	....
Hoffman & Kelley, Sayer 9	3	....
Parker, Trax & Kelley, Grant 4	2	....
S. P. McCalmont Estate, Morrison 1	¶½	....
Clarion County—		
Heeter, Potts & Edinger, Breamer & Co. 2	3	....
Whitling Gas Co., Whitling 2	¶1	....
Agnew & Co. Callahan 1	*	....
Lewis, Scott & Co., Lauffer 2	¶1	....
A. D. Shorts & Co., Kahle heirs 2	2	....
Butler County—		
Heeter & Woods, Ferguson heirs 1	¶1¼	....
E. H. Hutchison, Wilson 2	¶1	....
Campbell & Hutchison, McKinney 6	3	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
Allegany County—		
M. J. Crowley & Co., Crowley 1	5	....
T. J. Gilligan & Co., Gilligan 1	10	....
Romeo Oil Corp., Coon 1	*	....
Cuba National Bank, Fee 14	3	....
Shinglehouse & Co., Murphy 1	3	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
Ritchie County—		
Penn Royal Oil Co. Lowther Bros. 3	30	....
Lowther Bros. 4	40	....
Philadelphia Oil Co. J. R. Marsh 6	*	....
Cairo Oil Co. J. B. & A. Lemon 2	¶1¼	....
John McGinnis Martin McMullen 1	¶1	....
Hope Nat. Gas Co. J. M. Rymer 1	¶1	....
Marion County—		
South Penn Oil Co. E. A. Blackshere 20	5	3064
Koen-McGraw 7	5	....
Owens Bottle Machine Co., J. M. Robinson 1	¶3	....
Buffalo Oil Co. Beaty heirs 1	5	....
W. P. B. S. Oil Co. L. M. Lough 1	¶2½	....
Wood County—		
New York Petroleum Co. Ben Patterson 1	2	....
Peevey Oil Co. Sudgin 1	*	....
Staatz Bros. B. Smith 1	*	....
John Leeton & Co., John Copling 1	5	....
Penn Royal Oil Co., Sarah M. Wilcox 1	*	....
Lincoln County—		
Cambridge Gas Co. A. M. & D. Mullens 1	¶1½	....
L. C. C. Wolfe, L. M. Thracher 2	¶1¼	....
Ray Gas Co. A. J. Banks 1	¶1¼	....
Roy & McComas Walter Scraggs 1	¶1¼	....
Columbia Gas Co., John Wells 1	¶1¼	....
Gilmer County—		
McCall Oil & Gas Co., Bennett heirs 5	¶2½	....
Richter Oil Co., B. S. Raybuck 6	5	....
Hope Nat. Gas Co. H. D. Hathaway 1	10	....
John J. James 1	¶1½	....
Lewis County—		
Mud Lick Oil & Gas Co., W. W. Watson 1	¶2½	....
McCall Oil & Gas Co., Watson 1	¶3	....
West Fork Oil & Gas Co. Haymond 1	¶2	....
T. M. Caine & Co. Daugherty 1	¶2	....
Monongalia County—		
Bradley & Co. Tennant-Wise 4	5	....
Dunn-Mar Oil & Gas Co., Tennant 5	¶¼	....
Clay District Oil & Gas Co., Thomas Tennant 1	¶¼	....
Harrison County—		
Lone Star Oil & Gas Co., A. C. Cookman 1	¶2½	....
Hope Nat. Gas Co., S. W. Greene 1	¶2	....
Grasselli Chemical Co., M. R. Lodge 5	¶3½	....
Calhoun County—		
Hope Nat. Gas Co., George W. Lewis 1	¶2	....
L. C. Collins 1	¶2¼	....
R. H. Marshall 1	¶2½	....
Wetzel County—		
Carnegie Nat. Gas Co., Amanda Scholes 2	¶2½	....
Hope Nat. Gas Co. F. D. Evans 1	*	....
Doddridge County—		
Trainer & Travis Unknown 1	5	....
Putnam County—		
United Fuel Gas Co., James E. Johnson 1	¶3	....
Logan County—		
Wecatock Oil & Gas Co., Guyan Mercantile 1	¶3½	....
Boone County—		
Owens Bottle Machine Co., Fuel Land Co. 1	¶¼	....
Marshall County—		
Decem Dev. Co. W. A. Evans 3	¶2	....
Cabell County—		
Aetna Oil & Gas Co. C. O. Nixon 1	¶¼	....
Pleasants County—		
West Virginia Oil Co., Ltd., E. L. Newland 1	*	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
Barren County—		
Consolidated Gas Co. Hall-Baker 9	40	....
Fred Moore, Fred Moore 8	16	....
Wood Oil Co., John Church 36-a, 1	7	....
Gillispie & Wiggins M. Mansfield 2	3	....
T. J. Sanson Preston 1	2	....
Carter Oil Co. Gooden 6	2	....
S. L. Gorby S. Chamberlain 1	*	....
Warren County—		
Roy Hogan Benjamine Ford 5	100	438
Rockfield Oil Co. Smith 13	50	464
Gillespie Oil Corp., Gillespie 10	15	1090
Westland Oil Corp., C. A. Keller 27	5	1050
H. Z. Clark Trustee Gillespie 5	15	1045
Allen County—		
J. W. Leach Carpenter-Dent 10	*	160
Central Southern Oil Co., Sid Goodrum 2	*	372
Work & Son R. J. Dinwiddie 1	*	275
Hice & Co., Kennedy 3	*	....
J. S. Albertson, Reynolds 1	*	450
Owensboro District—		
Bert Thompson J. O. Brown 5	15	....
Pellville Oil Co. Gabbard 1	*	....
Panther Creek Oil Co. J. W. Smith 4	10	....
Moseley Oil Co. Moseley 1	*	....
Cumberland County—		
Richardson & Goff Rathford 1	30	....
Young Oil Co. Coffee 3	12	....
Robert Stead Strange 3	3	....
Lawrence-Johnson Counties—		
Union Gas & Oil Co. W. D. Lester 6	100	807
Caney Sparks 3	60	802
Morgan County—		
Rexsel Oil Co. Unknown 2	50	....
Lee-Owsley Counties—		
Henry Oil Co. Daniels-Foreman 2	42	1115
Bell County—		
Canada Peak Oil Co. Canada Mountain 1	*	....
Harlan County—		
Rex G. Carpenter Near Colfax 1	*	....
Elliott County—		
Hupp, Duff & Co. J. C. Hunter 2	*	....
Laurel County—		
Piney Oil & Gas Co. Mrs. Hubbard 1	*	....

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Washington County—		
William Barrett & Co. A. Harvey 2	¶¼	....
Muskingum Gas Co. G. W. Laynachan 1	¶2	....
Abigal Stephen 1	¶¼	....
William Huntsman & Co. Ora Erbes 3	5	....
Beeson, Bailey & Co. James R. Heslip 7	15	656
Carroll County—		
Miller Lees Oil & Gas Co. T. & K. Miskel 11	15	....
Morgan County—		
The Pure Oil Co. Clarence Fry 1	10	....
Muskingum County—		
Mideast Oil Co. E. Bowlin 1	¶½	....

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Holmes County—		
Norwood Oil Co. W. R. Parsons 1	¶1½	....
Empire Gas & Fuel Co. Byron Martin 1	*	....
The Pure Oil Co. William H. Miller 2	70	....
East Ohio Gas Co. B. C. Bird 1	¶2¼	....
J. N. Patterson 1	*	....
J. Clark Smith 1	*	....
Perry County—		
Carter Oil Co. William Green 1	*	....
Ohio Fuel Corp. Charles Trimmer 5	187	....
C. L. Bullock & Co. John Grennan 17	3	....
John Foutz Thompson 8	3	....
Licking County—		
Detex Oil & Gas Co. Otto Franks 1	2	....
F. M. Rugg & Co., Jacob Weiss 4	5	....
Ohio Fuel Corp. Orville Kiger 1	¶¼	....
Hocking County—		
Arkansas Fuel Oil Co. Nelson H. Frances 3	4	....
Mid West Oil Co. Susan Geiger 1	¶3	....
Athens County—		
Sayer & Cook Dr. Copeland 7	3	....
McBride & Co. J. McKinley 1	*	1310
Wayne County—		
Ohio Oil Co. James M. Carroll 3	*	....
William Denney & Co. H. Rocks 1	¶1¼	....
Coshocton County—		
Bell Bros. & Co. Cassingham & Hebrig 4	¶¼	....
Ashland County—		
Ohio Fuel Gas Co. C. D. Maxwell 1	¶1	....
Meigs County—		
Ohio Fuel Supply Co. E. Williams 1	14	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Wood County—		
Mercer & Ray M. Wallace 17	15	....
Ohio Oil Co. S. M. Cook 17	7	....
B. A. Lawrence 43	*	1473
Mattie Rouse, Fee 23	*	....
Harkness & Maxwell R. Whitacre 32	*	....
W. F. Johnson D. Lahy 7	5	....
F. W. Munn C. Potter 5	10	1177
Sandusky County—		
B. J. Rineboldt Fee 6	6	1289
Ohio Oil Co. S. M. Ladd 5	20	1317
Hancock County—		
Dave King & Co. Eli Gorby 7	35	....
Allen County—		
Wolfe Bros. & Gervin Oil Co. John Bearman 1	15	....
Mercer County—		
E. A. Kuhns & Co. C. C. Ricketts 4	5	....

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
Gibson County—		
Consolidated Oil & Nelson, George W. Harper 1	15	1336

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
Washington County—		
Alspach & Co. Adolph Dodellett 1	*	810

PERMITS GRANTED FOR NEW WELLS

ARKANSAS

La Fayette County—Humble Oil & Ref. Co.'s Bodcau 1, 21-15-22, 790 ft N and 990 ft W of center.

Ouachita County—Arkansas Fuel Oil Co.'s Snyder 4, 34-15-15, NEc SE¼ SW¼. H. E. Clark et al's Shirley 2, 36-15-17, NWc of section. El Dorado Union Oil Co.'s Eagle Lumber 1, 17-12-15, SWc of section. Humble O. & R. Co.'s Umstead 8, 4-16-15, SEc Lot 2 in NE¼. Invaders Oil Co.'s Miller 5, 5-16-15, center north line SW¼ NE¼. Miles et al's Neeley 2, 26-15-16, SWc W½ SW¼ NW¼. J. D. Reynolds et al's Berg 2, 27-15-17, NWc E½ NE¼ NE¼. Roxana Pet. Co.'s Umstead A-1, 4-16-15, NWc of section. Shreveport Oil Corp.'s Umstead 3, 4-16-15, center of west line lot 1 in NW¼. Sinclair Oil Co.'s Berry 1, 33-15-15, 200 ft S and E of NWc NE¼ NW¼; old well to be deepened. Standard Oil Co.'s Murphy 13, 5-16-15, 330 ft S and W of NEc lot 1 in NE¼. Texas Pacific Coal & Oil Co.'s Laney 5, 31-15-15, NWc SE¼ NE¼. Umstead et al's Fee 1, 4-16-15, SEc W½ lot 1 NE¼. Woodley Pet. Co.'s Umstead 5, 4-16-15, center of north line S½ lot 2 in NW¼.

Union County—Amerada Pet. Co.'s Lyall 1, 3-16-15, 200 ft N and E of SWc NE¼ NW¼; old well to be deepened. Broderick & Calvert's G. F. Murphy A-3, 8-16-15, 200 ft N and W of SEc SW¼ SW¼; old well to be deepened. Carrigan et al's Hill 1, 5-16-15, 150 ft N and W of SEc NW¼ SE¼; old well to be deepened. Clark & Melat's Wells A-2, 15-16-15, 200 ft N and W of SEc NE¼ NW¼; old well to be deepened. Grimes & Jones' Van Hook 4, 7-18-14, NWc SE¼ NE¼. Gulf Ref. Co.'s Berry 7, 8-16-15, 430 ft S and 1520 ft E of NWc of section; LeCroy 6, 16-16-15, 330 ft S and E of NWc of section; G. E. Murphy 4, 8-16-15, 1520 ft S and 1100 ft E of NWc; old well to be deepened; H. Murphy 18, 3-16-15, 1120 ft N and 200 ft E of SWc of section. Hollifield et al's Giller 3, 10-16-15, 200 ft S and W of NEc NE¼ SE¼; old well to be deepened. Laurel Oil Co.'s Houston 1, 12-16-16, SEc of N½ NE¼ SE¼. Lion O. & R. Co.'s Murphy E-1, 8-16-15, SEc of NW 15 acres of SE¼ SE¼; Murphy E-2, 8-16-15, NEc of NW 15 acres of SE¼ SE¼; Murphy C-1, 8-16-15, SEc NE¼ SE¼; Murphy H-1, 9-16-15, center of south line W½ SE¼ NW¼. Lyall et al's Fee 8, 3-16-15, SWc of SE¼ SW¼. R. J. McMurray's Hill 1, 5-16-15, NWc SE¼ NW¼ SE¼. Natural Gas & Pet. Co.'s Murphy B-3, 17-16-15, 450 ft S and 165 ft W of NEc W½ NE¼ NE¼; Murphy F-3, 9-16-15, SEc SW¼ NE¼ SW¼. Phillips Pet. Co.'s Alphin 5, 11-16-15, 200 ft N and 330 ft W of SEc SW¼ SW¼. Pure Oil Co.'s Bilyieu 2, 8-16-15, NWc NE¼ NE¼. Ray Drilling Co.'s Tatum 3, 7-16-15, 200 ft N and E of SWc NE¼ N½; old well to be deepened. Rogers et al's LeCroy 1, 17-16-15, 400 ft N and 165 ft W of SEc NE¼ NE¼; old well to be deepened; LeCroy 3, 17-16-15, NEc of section. Roxana Pet. Co.'s Bilyieu 2, 9-16-15, NEc SW¼ NW¼; Bilyieu 3, 9-16-15, NWc SW¼ NW¼; Bilyieu 4, 9-16-15, SWc SW¼ NW¼; Flenniken B-1, 5-16-15, 200 ft S and 175 ft E of NWc SW¼ SE¼; Flenniken C-4, 8-16-15, NEc NW¼ NE¼. Sun Co.'s Hayes 9, 3-16-15, 330 ft N and E of SWc lot 5 in NW¼; Hayes 10, 3-16-15, 330 ft S and E of NWc lot 2 in NW¼. The Texas Co.'s Calloway 5, 4-16-15, 330 ft S and W of NEc NE¼ SE¼; Galloway 6, 4-16-15, 330 ft N and W of SEc NE¼ SE¼; Hayes 5, 4-16-15, 1170 ft N and W of SEc SE¼ NE¼; Hayes 6, 4-16-15, 1050 ft N and 200 ft W of SEc SE¼ NE¼; Hayes 7, 4-16-15, 330 ft N and W of SEc SE¼ NE¼. Unity Pet. Co.'s Roper 8, 3-16-15, NEc SW¼; Roper 9, 3-16-15, center of east line NE¼ SW¼. Ward et al's Hicks 1, 11-16-16, 200 ft S and W of center; old well to be deepened. Winger et al's Lawton 1, 10-16-15, 80 ft N and 150 ft E of SWc of section.

LOUISIANA

Bossier Parish—G. W. Wetherbee's Fee No. F-7, 23-19n-11w, 150 ft S and 150 ft W of NE cor NE¼ of SW¼.

Caddo Parish—Mrs. N. M. Hancock's Hampton No. 1, 15-21n-15w, 200 ft S and 143 ft W of NE cor S½ of NE¼ of NE¼. The Ohio Oil Co.'s E. K. Smith No. 17, 12-21n-15w, 2313 ft W and 693 ft N of SE cor of Sec.

Webster Parish—Belchic & Laskey, Inc.'s Glass No. 1, 27-23n-10w, 140 ft N and 500 ft W of SE cor SE¼ of SW¼ of SW¼. Belchic & Laskey, Inc.'s Porter Wadley No. 1, 36-23n-10w, 600 ft N and 660 ft W of SE cor SE¼ of NW¼. Fortuna Oil Co.'s Branton No. 1, 6-22n-9w, 660 ft S and 660 ft W of NE cor of SW¼. Humble Oil & Ref. Co.'s Weaver Bros. & Looney No. 1, 25-21n-10w, 450 ft W and 300 ft S of NE cor E½ of NW¼. Louisiana Oil & Ref. Corp.'s Gray No. 6, 28-21n-10w, 330 ft E and 330 ft S of NW cor of NE¼ of NW¼. Ohio Oil Company's Gray No. 9, 26-21n-10w, 330 ft N and 330 ft W of SE cor of NW¼.

CALIFORNIA

Elk Hills Field—Pacific Oil Co.'s No. 88, 35-30-24; No. 75, 35-30-24. Elk Hills Dev. Co.'s No. 2, 14-30-22.

Huntington Beach Field—Standard Oil Co.'s No. 33, 4-6-11.

Inglewood Field—Shell Co.'s Rindge 1, 8-2-14. Mohawk Oil & Gas Synd.'s No. 2, 7-2-14. Pet. Midway Co. Ltd.'s Smith 2, 7-2-14. Standard Oil Co.'s L. A. Investment 1-5, 17-2-14; L. A. Investment 1-6, 17-2-14.

Kern County Field—Hitchcock & Cottle's No. 1, 21-30-21.

Kern River Field—Marland Oil Co.'s Cauley 14, 16-28-27.

Midway Field—Boston Pacific Oil Co.'s 7-C, 32-21-24. Pacific Oil Co.'s No. 7, 19-31-24; No. 5, 19-31-24; No. 71, 31-31-24.

Rosecrans Field—George F. Getty Inc.'s Athens 2-A, 7-3-13. Dominion Oil Co.'s Athens 1, 7-3-13. Henderson Pet. Corp.'s Athens 2, 7-3-13. De Lendrecie Oil Well's Athens 1, 7-3-13.

San Luis Obispo County Field—Lloyd Tevis' No. 1, 12-31-21.

South Mountain Field—Oak Ridge Oil Co.'s Yale Richardson 4, 13-3-21.

Torrance Field—C. C. M. O. Co.'s Torrance 74, 15-4-14; Del Amo 48, 16-4-14; Del Amo 54, 16-4-14.

Ventura Field—Shell Co.'s Gosnell 15, 28-3-23.

Whittier Field—Central Oil Co. of L. A.'s No. 75, 23-2-11.

KANSAS

Butler County—Ralston & Matthews No. 1 Rutchman, SWc NW 33-23-3.

Chautauqua County—Noble Oil & Gas Co.'s of Tulsa, Okla., No. 1 Jackson, NEc SE¼ 2-33-11.

Cowley County—T. E. Miller et al's No. 1 Corbin, NWc SW NW 5-30-7.

Greenwood County—Theta Oil Co.'s No. 3 Pixlee, SEc SW SE 8-22-10; Pryor & Lockhart No. 4 Derbyshire, SEc NE SE 13-25-10; White Eagle O. & R. Co.'s of Wichita No. 2 Browning, SEc SW NE 19-22-10; C. W. Titus of Tulsa, Okla., No. 4 Prather, NEc SE NE 30-22-10; Mid-Kansas O. & G. Co.'s of Findlay, Ohio, No. 4 Prather, NEc NW NE 30-22-10; Davis-Alyard et al's No. 3 De Malorie, NEc NW SW 7-22-11; Henderson, Holden & Milliken No. 8 Bersie, NEc SW SE 22-22-11; Reverly et al's No. 2-B Hartley, SWc NW NE 22-23-9; Beverly et al's No. 3-B Hartley, NWc SE 2-23-9; Rogers, Bittler et al's No. 4 Green, NEc 10-23-9; Skelly Oil Co.'s & Emerald Oil Co.'s of Tulsa, Okla., No. 4 Noler, SEc SW SW 10-23-9; McGinnis & Bittler No. 8 Teeter, SEc NW 15-23-9; Mission Oil Co.'s No. 7 Thrall, SEc NW SW 32-23-10; T. K. Simmon's No. 1 Tiffany, NWc SW¼ 23-23-11; Rhodes, Abell & Simmons, No. 1 Hoover, SWc NW 24-23-11. Ed Parkin et al's No. 1 Beal, NWc SW SE 31-23-11; Theta Oil Co.'s No. 3 Schneider, C N L NE SE 9-23-11; Mission Oil Co.'s No. 8 Wiggins, C E L SW NW 23-24-9; B. C. Redgraves et al's No. 1, Tanahill, C SW SE 21-24-11; Houston-Oklahoma's No. 10 Sullivan, SEc NW SW 14-24-12.

OKLAHOMA

Carter County—Humble O. & R. Co.'s No. 1 Tate, C NE SE NW 33-1s-3w. Magnolia Pet. Co.'s of Dallas, Texas, No. 6 Williais, C NW NW SE 23-2s-3w. Twin States Oil Co.'s of Tulsa, Oklahoma, No. 5 Davis, C NE SE SW 23-2s-3w. Empire Co.'s of Bartlesville, No. 13 Davis, C SW SE NE 34-2s-3w. Merrick-Cameron Refg. Co.'s of Ardmore, No. 2 Moyer, C SW SE NE 8-3s-2w. Humble O. & R. Co.'s of Houston, Texas, No. 15 Hewitt, NWc SW NE SW 9-4s-2w. Amerada Pet. Corp.'s, of Tulsa, No. 11 Clay, SEc SW NW NE 28-5s-1e; No. 6 Westheimer, SEc SW NE NW 28-5s-1e; No. 1 Wolverine, NEc SE SW NW 34-5s-1.

Creek County—Shaffer O. & R. Co.'s of Tulsa, No. 2 Ross, NWc NW SW 13-19-8, old well deepened. Madden & Madden of Tulsa, No. 3 Bishop, NW SW SW 13-17-8. Bu-Vi-Bar Pet. Co.'s of Bristow, No. 1 McIntosh, C SE NE 13-17-8. Aztec Oil Co.'s of Tulsa, No. 3 Johnson, NWc SE SE 14-17-8. Atlantic Oil Prod. Co.'s of Dallas, Texas, No. 3 Johnson, C S L SW SE 14-17-8. Skelly Oil Co.'s

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California:

Number of Wells for Week Ending

	Dec. 27	Jan. 3	Jan. 9	Jan. 16	Jan. 23	Jan. 30	Feb. 6	Feb. 13	Feb. 20	Feb. 27	Mar. 6	Mar. 13	Mar. 20	Mar. 27	April 3	April 10
Kansas	15	..	4	28	20	9	19	22	29	24	82	24	36	55	34	23
Oklahoma	37	32	23	43	56	56	80	115	96	108	100	94	94	73	115	107
Arkansas	15	12	11	21	20	19	13	29	21	31	30	67	55	80	54	55
Louisiana	13	8	13	19	4	9	25	16	20	14	9	14	14	14	4	9
Texas	165	...	64	166	117	158	137	177	207	133	189	210	218	198	187	214
California	25	13	19	19	18	10	19	19	18	27	12	40	24	36	42	26
Total	270	134	184	296	235	261	298	378	391	337	422	449	441	456	436	434

of Tulsa, No. 5 McKane, SW SW SW 12-14-8. Gypsy Oil Co.'s of Tulsa, No. 11 Gray, NWc SW NW 6-18-11. Penrod & Thompson's No. 2. Unallotted, C S L NE SE 20-16-9. Tibbens' of Tulsa, No. 14 Unalotted, NWc SW NE 30-15-9; No. 15, Unalotted, C NE SW 30-15-9; No. 16, Unallotted, C NW SE 30-15-9.

Grady County—Nicholas Drlg. Co.'s No. 2 Reed, C SE SW NW 25-5n-8w. Noble & Westerfelt's of Tulsa, No. 3 McCaughtry, C NE NE NW 35-5n-8w. Joe Ray's SWc NE SE 21-3n-5w; No. 1 Punds, SWc NE SE 27-3n-5w.

Hughes County—Cosden & Co.'s of Tulsa, No. 13 W. Alexander, C S½ N½ NW 3-9-9. Transcontinental Oil Co.'s of Pittsburgh, No. 10 C. Tiger, C NW SE NE 4-9-9. T. Atkins et al's No. 1 L. Charles, C NW SW SW 19-9-9, old well deepened. J. L. Brock Jr.'s J. Bruner, C SW SW NW 28-7-8. Atkins et al's No. 1 A. Sewell, C SE SW SW 14-7-9. Parmenter et al's No. 1 T. A. Stewart, C SW SE 11-5-8.

Okfuskee County—Josey Oil Co.'s of Tulsa, No. 12, Rentie, NEc SE 33-12-11. Mid-Continent Pet. Corp.'s No. 5 F. Fields, SEc SW NE 3-11-11. Burke Greis' No. 2 S. Bruner, C NW SE SE 16-10-9.

Okmulgee County—Berry Pet. Co.'s of Tulsa, No. 1 Willis, NWc SE SE 27-16-12. Anglo-Texas Oil Co.'s No. 1 Jacobs, old well deepened, SWc NW 31-16-14. Colver No. 4 Fee, NW SW NW 3-15-11. Iron Mt. Oil Co.'s No. 1 Doneghy, NEc NW SE 17-15-12. Olean Pet. Co.'s of Bristow, No. 1 Haynes, C SE SW SE 11-15-12; No. 2 Haynes, C SW SE SE 11-15-12. J. A. Swindler et al's No. 1 Lewis, SWc NE 25-13-11. Simms Oil Co.'s No. 3 Jordan, C NW SW NE 31-12-12; No. 5 K. Rentie, C SW SE NW 31-12-12. Independent O. & G. Co.'s, and Kingwood et al's of Okmulgee No. 1-A L. Rentie, NWc SW 31-12-12. Roberts' No. 4 B. Grayson, NEc SE NW 17-13-13. Hastings' No. 1 A. Osborn, SEc NW 21-15-14, old well deepened. Papoose Oil Co.'s of Tulsa, No. 8 C. Osborn, SEc NE SW 21-15-14, old well deepened; No. 22 Osborn, C W L SW SE 21-15-14.

Pawnee County—Magnolia Pet. Co.'s of Dallas, Texas, No. 5 School land, SE SW SE 16-20-6.

Osage County—Barnsdall Oil Corp.'s of Tulsa, No. 4, SW SE SW 1-21-8. Grimes & Gillespie's No. 15, NWc SW SE 31-21-12. Owen Osage's No. 319, C SW SW 3-22-10. Mid-Kansas O. & G. Co.'s of Findlay, Ohio, No. 1, SEc 8-23-10. Tidal-Osage's of Tulsa, No. 14, C NW E½ W½ NE 24-24-9. Barnsdall's No. 3, NW SW NW NW 11-24-11. Titus et al's of Tulsa, No. 5, NW NE NW NE 12-24-11. Texas Co.'s No. 15, SWc NE 29-25-8. Plymouth Pet. Co.'s No. 1, NE SW 33-25-11. Gypsy's No. 1, SW NE 24-26-5. Skelton & Moore's No. 6, SE NE SW 32-26-12. Phillips Pet. Co.'s of Bartlesville, No. 1, SW NW SW 12-27-5; No. 2, C SE SW NW 12-27-5; No. 5, C NW SW NW 12-27-5; No. 6, C NE SW NW 12-27-5; No. 9, 12-27-5; No. 16, NE NW 12-27-5; No. 10, C SE NW NW 12-27-5. Owen-Osage's No. 322, NW SW SE 8-27-11. Gypsy Oil Co.'s of Tulsa, No. 1, SE NE SW 21-28-7.

Seminole County—Cosden & Waite Phillips' of Tulsa, No. 3 H. Williams, C NW NE SW 33-11-8. Waite Phillips' of Tulsa, No. 1 E. Baker, C SW SW NE 28-11-8. Cosden & Co.'s of Tulsa, No. 1 George, C SE SE NE 32-11-8. Cosden & Waite Phillips' No. 5 H. Williams, C NW NW SW 33-11-8; No. 6 Williams, C SW NW SW 33-11-8. Carter & Pulaski's of Tulsa, No. 2 Williams, C SW SW NW 33-11-8; No. 2 Baker, C SW SE NW 33-11-8; No. 3 Baker, C NE SE NW 33-11-8. Gypsy Oil Co.'s of Tulsa No. 5 C. Jack, C NW SW NE 33-11-8; No. 6 Jackson, C NE SW NE 33-11-8; No. 7 Jackson, C NE SE NE 33-11-8; No. 8 Jackson, C NE SE NE 33-11-8; No. 1 H. Brown, C SW NE NE 33-11-8. Carter Oil Co.'s of Tulsa, No. 3 N. Dunn, C NE SE NW 3-10-8; No. 14 N. Dunn, C SW NE NW 3-10-8; No. 15 N. Dunn, C SE NE NW 3-10-8. Gypsy & Laurel's of Tulsa, No. 8 Ben Fixico, C NW SW NW 4-10-8. Laurel's No. 1 Barkey, NEc 5-10-8. Gypsy & Laurel's No. 2 J. Williams, C NE NE NW 5-10-8. Magnolia Pet. Co.'s No. 3 Williams, C SE NE NE 5-10-8. White Eagle's of Kansas City, Mo., No. 2 A. King, C NW NE SW 14-10-8. Morgan & Flynn's No. 1 Ingram, C NW NW SE 10-9-5. W. R. Ramsey's No. 1, C NW NW NE 10-6-8.

Stephens County—Rogers et al's No. 1, NWc 13-2n-5w; No. 1 Truitt, NEc 14-2n-5w. Ka-Wye's No. 1 Hines, SEc NW SW 25-1n-9w. Smith-Law's No. 2 Brymer, NWc SE NE 31-1n-8w, old well; No. 3 Brymer, C W L NE NE 31-1n-8w, old well. Day Oil Co.'s No. 1 Phillips, C S L N½ NW NE 21-1s-8w. Crump & Beard's No. 3 Sheltor, NWc SE 32-1s-8w, old well now completed; No. 2 Sheltor, NEc NW NW SE 32-1s-8w, old well now completed; No. 4 Sheltor, SWc NW NW SE 32-1s-8w, old well; No. 1-A Shelton, SEc NW NW SE 32-1s-8w, old well. Empire Co.'s of Bartlesville, No. 1 Story, SEc NW 32-1s-8w, old well. Cant et al's No. 6 Shelton, NWc NE NW SE 32-1s-8w, old well.

Tulsa County—Glidden Oil Co.'s No. 1-A Robinson, SEc SW SW 14-19-10. Highway Drlg. Co.'s No. 10 Jargee, SWc NW SE 20-19-12. Munn et al's No. 2 Jargee, NWc SE SW SW 20-19-12; No. 3 Jargee, SEc NE SW SW 20-19-12. Gladys' No. 1 Postoak, NEc NW NW 29-19-12.

TEXAS

Archer County—Texas Co.'s Wichita Falls, Texas, W. J. Ragle 27, R. Newman sur, 1285 ft to N and 782 ft to W line; Texas Co.-Davis 11, J. A. Hopkins sur, 922 ft to N and 2227 ft to E line; W. J. Ragle 26, J. A. Hopkins sur, 922 ft to N and 1827 ft to E line. B. I. Dee's, Morgan Bldg., Wichita Falls, Texas, C. A. Mangold 3, B 21, C. Wright sur, 300 ft W No. 1. United Central Oil Corp.'s, Wichita Falls, Texas, J. F. Rogers 7, 2407 TE&L sur, 300 ft E No. 5. Panhandle Ref. Co.'s, Wichita Falls, Texas, M. E. Rogers 1, 1596 TE&L sur, 150 ft to N and W lines; M. E. Rogers 2, 1596 TE&L sur, 316 ft E No. 1. Magnolia Petroleum Co.'s, Dallas, Texas, K. Rogers 10, 2407 TE&L sur, 300 ft S No. 9. F. G. Payne's

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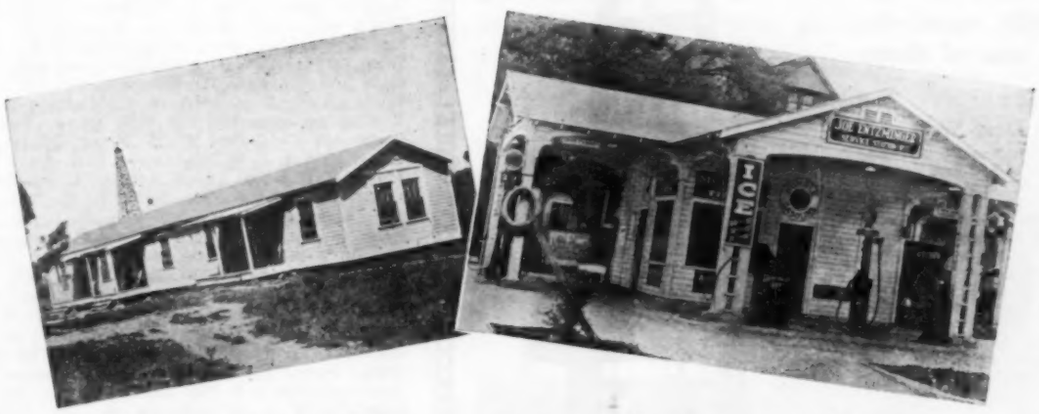

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1403 Taylor, Wichita Falls, Texas, G. Parrish 1, B 97, Amer. Trib., 150 ft to S and W lines. Continental Oil Co.'s, Fort Worth, Texas, H. Harmel 11, 2401 TE&L sur, 410 ft N No. 7; H. Harmel 12, 2401 TE&L sur, 388 ft S No. 3. Union Oil Co.'s, Box 331, Wichita Falls, Texas, L. F. Wilson 1, Amer. Trib. sur, 150 ft to S and E lines. Mutual Oil Co.'s, Fort Worth, Texas, J. F. Rogers 1, 2407 TE &L sur. W. S. Langford's, 600 Indiana Ave., Wichita Falls, Texas, Kemp & Kempner 11, B 42, W.V.F.L. sur, 240 ft S No. 9. Roy I. Carter's, City Nat. Bank Bldg., Wichita Falls, Texas, W. P. Ferguson 3, S 2, S. P. Ry sur, 300 ft S No. 2. Riner & Bailey's, Wichita Falls, Texas, L. F. Wilson 12, B 29, Amer. Trib. sur, 417 ft to N and 405 ft to E line. Staley & Wynne's, Staley Bldg., Wichita Falls, Texas, J. M. Bloodworth 1, S 11, BBB&C Ry. sur, 160 ft to N and E lines. P. J. White's, City Nat. Bank Bldg., Wichita Falls, Texas, L. F. Wilson 20 S 11, Amer. way sur, 300 ft E No. 10. A. T. Story's, 1109 Travis Ave., Wichita Falls, Texas, W. O. Wright 1, 2435 TE&L sur, 150 ft to S and W lines. R. R. Robertson's, Box 434, Wichita Falls, Texas, A. J. Lowe 1, B 2, I. Holman sur, 150 ft to N and 450 ft to W line. Empire Gas & Fuel Co.'s, Staley Bldg., Wichita Falls, Texas, L. F. Wilson 20 S 11, Ameri. Trib. sur, 340 ft E No. 3. Shaw & Rathke's, Wichita Falls, Texas, W. O. Hayter 5, 1598 TE&L sur, 300 ft S No. 2; E. S. Monohan 2, B 4, S. Anderson sur, 335 ft N No. 1, Davis-Hart Co.'s, Staley Bldg., Wichita Falls, Texas, Roach & Junker 6, 1594 TE&L sur, 750 ft to N and E lines. B. F. Whitehill's, Box 881, Tulsa, Okla., H. S. Morrison 15, B 4, D.C.S.L. No. 3 sur, 300 ft W No. 10. Fisher & Gilliland's, City Nat. Bank Bldg., Wichita Falls, Texas, J. F. Rogers 4, 2407 TE&L sur, 316 ft N No. 3. Maer & Staniforth's, City Nat. Bank Bldg., Wichita Falls, Texas, B. H. York 1, 1583 TE&L sur, 150 ft to N and W lines. Texhoma Oil Ref. Co.'s, Wichita Falls, Texas, Mrs. R. E. Harbison 15, B 4, S. Anderson sur, 335 ft N No. 1. Gulf Production Co.'s, Fort Worth, Texas, Oil Inv. Co. 12, S 125, J. W. Harris sur, 2250 ft to E and 971 ft to S line. Riner & Bailey's, Wichita Falls, Texas, L. F. Wilson 26, B 29, Amer. Trib. sur, 300 ft N No. 25. Mrs. H. B. Wallace's, Wichita Falls, Texas, Kemp & Kempner 30, No. 2 S. P. Ry. sur, 300 ft SE No. 31. Sun Oil Co.'s, Amer. Nat. Bank Bldg., Dallas, Texas, Abercrombie & Taylor 1, B 18, Amer. Trib. sur, 150 ft to N and W lines; W. M. Priddy 1, S 2, S. P. Ry. sur, 150 ft to N and E. lines. Texhoma Oil & Ref. Co.'s, Wichita Falls, Texas, L. F. Wilson 5, B 31, Amer. Trib. sur, 400 ft E No. 5; Mrs. R. E. Harbisno 14, B 4, S. Anderson sur, 300 ft E No. 6. Wirt Franklin's, Ardmore, Okla., W. F. Parrish 7, S 26, H&TC Ry. sur, 340 ft N No. 5.

Bexar County—Frontier Oil Co.'s, San Antonio, Texas, I. J. Harvey 8, No. 520 J. P. McKinney, S of No. 2. Gas Ridge Dev. Co.'s, Alamo Nat. Bank Bldg., San Antonio, Texas, C. Wurzbach 1, Blk 4303, 170 ft to S and 650 ft to E line.

Brown County—C. O. Moore's, Cross Plains, Texas, J. K. Gafford 1, Wm. Miller sur, 650 ft to S and 400 ft to E line.

Bosque County—Hardy Sitton's, Granbury, Texas, J. O. Kline 1, N. J. Dobie.

Baylor County—Grebin & Sullivan's, Staley Bldg., Wichita Falls, Texas, Anderson & Elldge 1, 2404 TE&L sur, 150 ft to N and W lines. A. T. Strong's, 1109 Travis Ave., Wichita Falls, Texas, J. A. Young 1, 2431 TE&L sur, 150 ft to N and W lines.

Brazoria County—J. C. Irwin's, Youngstown, Ohio, Z. J. Gales 1, S. M. Williams sur, NW cor of blk 12. Humble Oil & Ref. Co.'s, Houston, Texas, Lyndall-Wyoming 11, M. Varner sur, 100 ft to S and 50 ft to W line. Sidney Taylor's, Mason Bldg., Houston, Texas, Mrs. M. C. D. Stratton 1, J. E. Groce sur No. 5, west central.

Callahan County—Davis-McKee Co.'s, Putnam, Texas, W. H. Jobe 3, S 11, Bayland Asy. sur, center; W. H. Jobe 4, S 11, Bayland Asy. sur, 300 ft W No. 2. St. Mary's Oil & Gas Co.'s, Moran, Texas, L. H. Qualls 15, 2287 TE&L sur, 425 ft N No. 14. J. A. Momgomery's, Denton, Texas, S. A. Jobe 1, S 4,

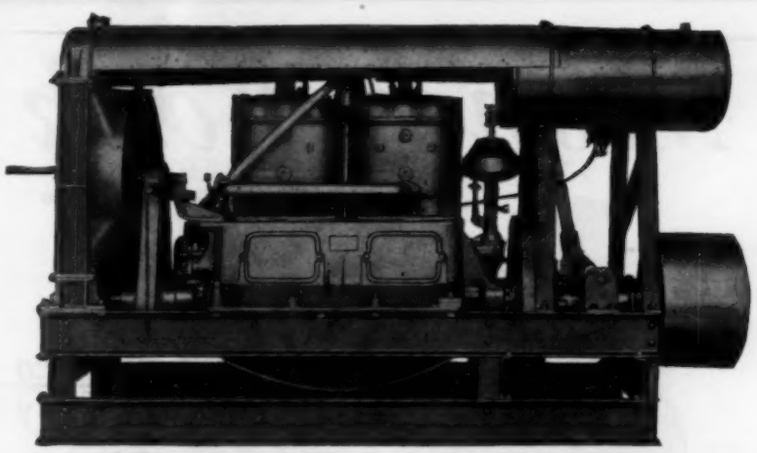
Bayland Asy. sur, 150 ft to S and W lines. F. Nickel et al's, Box 55, Cisco, Texas, S. M. Davis 8, S 4, Bayland Asy. sur, 320 ft NW No. 7; M. Isenhour 1, S 12, Bayland Asy. sur, 150 ft to N and W lines. Parkersburg Drilling Co.'s, Box 19, Cisco, Texas, E. W. Pruett 17, 2278 TE&L sur, 500 ft N No. 11. Fred Pool et al's, Moran, Texas, C. T. Terry 1, S 47, Insane Asy. sur, 150 ft to N and 1320 ft to E line. Shackleford Oil Co.'s, Putnam, Texas, M. A. Thomason 5, 2278 TE&L sur, 150 ft to S and W lines. H-Y Oil Co.'s, Box 642, Fort Worth, Texas, G. C. Woods 9, 2299 TE&L sur, 400 ft S No. 8; G. C. Woods 10, 2299 TE&L sur, 300 ft S No. 9; A. W. Warren 10, 2971 TE&L sur, NE cor. Leon Valley Oil Co.'s, De Leon, Texas (Comanche County), S. T. Peak 1, S 6, HT&B Ry. sur, 300 ft to E in center of line. Goodloe & Harris, Putnam, Texas, S. M. Davis 6, S 4, Bayland Asy. sur, 300 ft W No. 2; S. M. Davis 7, S 4, Bayland Asy. sur, 300 ft W No. 6. B. A. Duffy's, Box 92, Putnam, Texas, P. G. Hatchett 1, S 23, Bayland Asy. sur, 490 ft to W and 150 ft to S line. W. R. Andrews et al's, Putnam, Texas, Mrs. R. D. Williams 30, 2973 TE&L sur, north central. Hutton & Haggard's, Cisco, Texas, J. Damit 15, S 4, Bayland Asy. sur, 400 ft to N and 600 ft to E line; J. Damit 16, S 4, Bayland Asy. sur, 500 ft to N and E. lines; J. Damit 17, S 4, Bayland Asy. sur, 400 ft to N and 300 ft to E line. Godley Oil & Gas Co.'s, Henrietta, Texas, C. B. Kennedy 8, S 8, Bayland Asy. sur, 300 ft S No. 7; R. L. Buchanan 15, S 8, Bayland Asy. sur, 300 ft W No. 14. B. J. Garnet et al's, Cross Plains, Texas, W. H. Jobe 1, S 18, Bayland Asy. sur, 750 ft to E and 1050 ft to S line. Grady Lyde's, Putnam, Texas, Mrs. A. S. Lobban 6, 2995 TE&L sur, 300 ft S No. 3; Mrs. A. S. Lobban 7, 2995 TE&L sur, 300 ft S No. 1. Landreth Production Corp.'s, Breckenridge, Texas, W. A. Ramsey 4, 2282 TE&L sur, 300 ft to N and 600 ft to W line. Multi-Chance Dev. Co.'s, Box 84, Putnam, Texas, G. Brandon 1, S 4, Bayland Asy. sur, 150 ft to S and E lines. Moutray Oil Co.'s, Cisco, Texas, T. H. Weddington 3, S 4, Bayland Asy. sur, 300 ft N No. 2; T. H. Weddington 4, S 4, Bayland Asy. sur, 300 ft N No. 3. L. A. Warren et al's, Cisco, Texas, Wm. Isenhour 1, S 7, Bayland Asy. sur, 250 ft to N and 150 ft to E line. Parkersburg Drilling Co.'s, Box 19, Cisco, Texas, E. W. Pruett 18, 2278 TE&L, 150 ft to N and 1430 ft to E line; L. H. Qualls 21, 2279 TE&L sur, 1430 ft to E and 150 ft to S line. Sincovich & Thomas', Putnam, Texas, G. C. Wood 6, 2279 TE&L, 150 ft to N and 1050 ft to W line; G. C. Wood 7, 2279 TE&L sur, 300 ft to N and 1350 ft to W line. Wittmer Property Trustees', Putnam, Texas, Mrs. R. D. Williams 15, S 1, T&P Ry. sur, 400 ft W. No. 3; Mrs. R. D. Williams 16, S. 1, T&P Ry. sur, 400 ft NW No. 15. Texas Co.'s, Breckenridge, Texas, P. G. Hatchett 2, S 23, D & D Asy. sur, 150 ft to S and E lines; P. G. Hatchett 3, S 23, D&D Asy. sur, 150 ft to N and E lines. Hockersmith, Anderson & Davis', Wichita Falls, Texas, J. Isenhour 1, 2299 TE&L sur, 400 ft to N and 200 ft to W line. Dickey-Lay Oil Co.'s, Putnam, Texas, S. M. Davis 9, S 8, Bayland Asy. sur, 300 ft N No. 3.

Comanche County—H. J. Wood's, Cisco, Texas, B. Blakely 1, S 21, L.C.S.L. sur, 160 ft to N and E lines. Leon Valley Oil Co.'s, De Leon, Texas, S. T. Peak 1, S 6, HT&B Ry sur, 300 ft to E in center of line.

Caldwell County — Gulf Production Co.'s, Houston, Texas, C. H. Beatty 1, J. Burleson sur, 150 ft to N and 155 ft to E line. Mid-Kansas Oil & Gas Co.'s, Tulsa, Okla., M. L. Brewer 1, J. Burleson sur, 150 ft to S and W lines.

Clay County—Jno. O'Neil's, Wichita Falls, Texas, J. F. Alcorn 1, S 2, T&NO Ry sur, 660 ft to S and E lines.

Eastland County — Westheimer & Daube's, Ardmore, Okla., L. S. Hamilton 9, S 3, T&NO Ry sur, 1375 ft to W and 655 ft to N line. C. M. Root's, Eastland, Texas, J. B. Ammerman 2, S 46, H&TC Ry. sur, 600 ft to N and W lines; J. W. Noble 1, S 25 H&TC Ry. sur, 600 ft to N and W lines. H. C. Stovall's, Moran, Texas, R. H. Qualls 1, 2985 TE&L sur, 150 ft to S and W lines; R. H. Qualls 1, 3190 TE&L sur, 450 ft to N and 150 ft to



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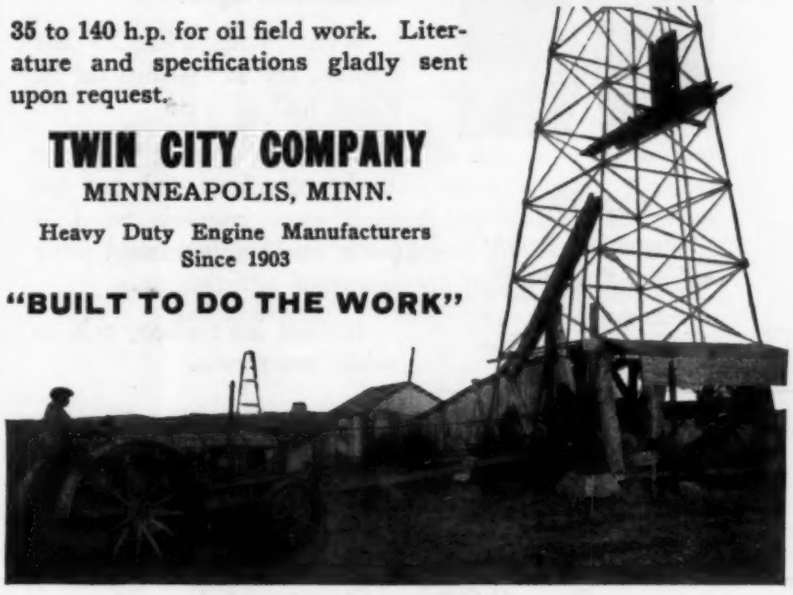

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E line. Weaver Oil Corp.'s, Box 937, Eastland, Texas, E. D. Dublin 2, S 42, H&TC Ry. sur, 200 ft to N and 250 ft to W line. A. Bint et al's, Cisco, Texas, R. L. Williams 1, S 4, GC&SF Ry. sur, 200 ft to N and W lines. J. T. Anderson et al's, Box 183, Cisco, Texas, Mrs. R. Sublett 1, S 2, RTI Co. sur, 150 ft to E and 200 ft to S line.

Hardin County—Ada Belle Oil Co.'s, Box 103 Batson, Texas, Fee 89, BBB&C Ry. sur, 82 ft to N and 22 ft to E line; W. Davis 90, J. Knight sur, 27 ft to E and 42 ft to S line; W. Davis 91, J. Knight sur, 32 ft to N and 33 ft to E line; Texas Co. 92, J. Knight sur, 28 ft to N and 40 ft to W line; W. Davis 93, J. Knight sur, 80 ft to N and 44 ft to E line; W. E. Brice 3, Green sur, 111 ft to E and 31 ft to S line. East Batson Oil Co.'s, Batson, Texas, Fee 17, BBB&C sur, 291 ft to N and 55 ft to E line. Lake View Oil Co.'s, Sour Lake, Texas, Hardin Co. Oil 42, S. Jackson sur, 150 ft E No. 26.

Fort Bend County—Union Sulphur Co.'s, Humble Bldg., Houston, Texas, T. W. Davis 16, M. Young, no location. Naylor & De Costa's, Richmond, Texas, Fee 1, H. Chrissman sur, 2785 ft E of Voegels' No. 1.

Harris County—Texas Co.'s, Houston, Texas, T. F. Mackmiller 1, Jas. Erwin sur, 419 ft to N and 50 ft to W line; J. W. Warren 3, T. A. Sully sur, 750 ft NW No. 2. Humble Oil & Ref. Co.'s, Houston, Texas, Shallow 14, Long Subdiv. sur, 75 ft to E and 88 ft to N line; Tyndall-Wyoming 11, M. Varner sur, 100 ft (Brazoria County). Maskell & Maskell's, Humble, Texas, W. W. Fondren 13, H. J. Strange sur, S of No. 11.

Henderson County — Cranfill Bros. Oil Co.'s Magnolia Bldg., Dallas, Texas, Jno. Shringer 1, B 2, J. M. Gardner sur, 150 ft to N and W lines.

Jim Hogg County—Kitzleman & St. Albans', Laredo, Texas, R. Holbein 9, S 15, Las Animas sur, 365 ft NE No. 2.

Liberty County—Paddock & McRae's, Second Nat. Bank Bldg., Houston, Texas, Jones 1, S 125, H&TC Ry., 50 ft to W line. Texas Co.'s, Houston, Texas, Staiti Fee 4, M. G. White sur, 1650 ft to E and 50 ft to N line; Simms Fee 4, D. Minchey sur, SE cor; Simms Fee 2, D. Minchey sur, 183 ft W No. 1; Simms Fee 3, D. Minchey sur, 200 ft W No. 2. Sinclair Oil & Gas Co.'s, Box 1806, Houston, Texas, Fee 1, D. Minchey sur, 75 ft to E and 46 ft to S line. Gulf Production Co.'s, Houston, Texas, O. A. Shade 4, D. Minchey sur, 250 ft W No. 2. Mrs. C. L. Brown et al's, Orange, Texas, J. Mitchell 1, M. G. White sur, 50 ft to W and 68 ft to S line. Oxford Oil Co.'s, Keystone Bldg., Houston, Texas, O. J. Harrison 1, M. G. White sur, NW cor; O. J. Harrison 2, M. G. White sur, E of No. 1; O. J. Harrison 3, M. G. White sur, SW cor. Republic Production Co.'s, Houston, Texas, Dolbear 114, J. Devore sur, 1852 ft to E and 2968 ft to N line; Dolbear 115, J. Devore sur, 3269 ft to N and 2102 ft to E line. Peer Oil Corp.'s, Box 1788, Houston, Texas, D. J. Harrison 6, M. G. White sur, 20 ft to E in center of line. Vacuum Oil Co.'s, Gulf Bldg., Houston, Texas, Barrett 6, M. G. White sur, 50 ft to S and E lines; Barrett 7, M. G. White sur, 460 ft to S and 60 ft to E line.

Limestone County — Magnolia Petroleum Co.'s, Dallas, Texas, N. B. Boyd 27, S. McAnulty sur, no location; R. Kennedy 1, P. Varela sur, 330 ft to S and E lines.

Montgomery County — Lee F. Sprague's, Hartford City, Ind., J. H. Hall 1, T. Cude sur, 180 ft to N and 1122 ft to E line.

Navarro County—Humble Oil & Ref. Co.'s, Houston, Texas, W. Smith 1, T. Havens sur, 150 ft to S and W lines; W. Smith 2, J. Havens sur, 150 ft to N and W lines; W. Smith 3, J. Havens sur, 300 ft NE No. 1; W. Smith 4, J. Havens sur, 300 ft SE No. 2; R. 1, Kent 15, Hrs. J. Smith sur, 457 ft to N and 971 ft to E line. G. C. Kent's, Corsicana, Texas, Szenasy Bros. 1, J. McNeal sur, 150 ft to N and W lines; J. Bressie 2, T. J. Sweeney sur, 750 ft to E and 150 ft to S line.

Milam County — Ruby Oil Co.'s, Minerva, Texas, J. W. Roark 4, T. J. Chambers sur, 367 ft NW No. 3; J. W. Roark 5, T. J. Chambers sur, 151 ft to S and W lines; J. W. Roark 6, T. J. Chambers sur, 360 ft W No. 1.

Orange County—Orange Petroleum Corp.'s,

Orange, Texas, O. Chesson 11, Chesson sur, 75 ft W No. 4.

Palo Pinto County—E. T. Hart's, F. & M. Bank Bldg., Fort Worth, Texas, W. T. Orme 1, S 42, T&P Ry. sur, 150 ft to N and E lines.

Panola County—J. D. Houston's, Vivian, La., G. C. Tiller 1, Jos. Storey sur, 390 ft to W and 1200 ft to S line. Magnolia Petroleum Co.'s, Dallas, Texas, Q. Stearns 1, Jos. Steele sur, 660 ft to N and E lines.

Shackelford County — Landreth Production Co.'s, Breckenridge, Texas, R. J. Moberly 1, S 13, Blind Asy. sur, 150 ft to N and W lines. R. C. McCarter's, Cisco, Texas, S. S. Diller 8, S 42, Insane Asy. sur, 870 ft to N in center of line. H. James', Albany, Texas, R. H. Moberly 1, S 13, T&P Ry. sur, 600 ft to N and 300 ft to E line.

Stephens County — Roesser & Pendleton, Inc.'s, Breckenridge, Texas, Mrs. K. Bell Hrs. 5, 1125 TE&L sur, 330 ft to S and W lines. Texas Pacific Coal & Oil Co.'s, Ranger, Texas, Chas. Binney 51, S 57, T&P Ry. sur, 1160 ft to S and 500 ft to W line. Texas Pacific Coal & Oil Co.'s, Ranger, Texas, Chas. Binney 52, S 57, T&P Ry. sur, 2240 ft to N and 2180 ft to W line. Simms Oil Co.'s, Dallas, Texas, S. S. Decker 5, T&P Ry. sur, 1650 ft to E and 150 ft to S line. Sun Oil Co.'s, Amer. Exchange Nat. Bank Bldg., Dallas, Texas, G. L. Donnell 3, 1212 TE&L sur, 893 ft to N and 938 ft to E line.

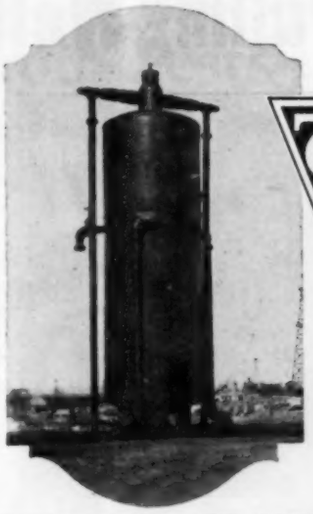
Sutton County—Caldwell & Sorrells', First Nat Bank Bldg., Fort Worth, Texas, G. S. Allison 1, S 16, Georgetown Ry. sur.

Sterling County—Kanawha-Angelo Oil Co.'s, Charleston, W. Va., L. T. Clark 1, S 6, GC &SF Ry. sur, 1000 ft to W and 1509 ft to S line.

Taylor County—C. C. Cady's, Box 605, Moran, Texas, R. E. Burns 1, S 68, Insane Asy. sur, 750 ft to E and 150 ft to S line.

Throckmorton County—Associated Petroleum Co 's, Fort Worth, Texas, P. C. Stacy 1, 1614 TE&L sur, 550 ft to N in center of line; Reynolds Cattle Co. 160, 1, A. Tarter sur, 350 ft to N and 700 ft to W line. Panhandle Ref. Co.'s, Wichita Falls, Texas, Travis County 1, B 29, T.C.S.L. sur, 5523 ft to E and 5915 ft to N line. T. F. Hunter's, Wichita Falls, Texas, A. Graham 1, 2317 TE&L sur, 150 ft to S and E line.

Wichita County—Texhoma Oil & Ref. Co.'s, Wichita Falls, Texas, G. W. Bailey 4, H. Hastie sur, 250 ft to N and 1140 ft to E line; S. B. Burnett 7, G. R. Meade sur, 364 ft E No. 4; S. B. Burnett 8, S 5, SA&MG Ry. sur, 300 ft N No. 6; S. B. Burnett 3, S 2, T&NO Ry. sur, 150 ft to S and E lines. Magnolia Petroleum Co.'s, Dallas, Texas, L. P. Douglas 13, L. P. Douglas sur, 200 ft to N and W lines. Staley-Cooper 8, C. Winters sur, 150 ft to N and 1040 ft to E line. Bleakey & Kinnison's, Wichita Falls, Texas, T. L. Lindsey 1, GC&SF Ry. sur, 600 ft to E and 400 ft to S line. Brown, McCalister & Lickey's, City Nat. Bank Bdlg., Wichita Falls, S. W. Wigley 2, P. Castleman sur, 250 ft to W and 150 ft to S line. J. H. White's, Wichita Falls, Texas, C. T. Taylor 1, B 98, C. T. Taylor sur. Sutherland Bros.'s, Box 293, Iowa Park, Texas, O. H. Chapman 1, S 24, Cowherd Bros. sur, 150 ft to N and E lines. Parmenter & Ezzell's, Box 1273, Wichita Falls, Texas, J. E. Roller 11, W. A. Grady sur, 300 ft W No. 9. W. L. Mann's, Wichita Falls, Texas, Roller Est. 15, J. Johnson & C. T. Ry. sur, 300 ft N No. 13. Kentucky Oil Corp.'s, Box 331, Wichita Falls, Texas, R. L. Crudup 3, S 10, D. C. S. L. sur, 300 ft W No. 1. Maer & Staniforth's City Nat. Bank Bldg., Wichita Falls, Texas, J. & J. Waggoner 1, GC&SF Ry. sur, 150 ft to N and E lines. Brashear & Silkwood's, Waggoner Bldg., Wichita Falls, Texas, Fassett & Tuttle 1, 200 ft to N and 150 ft to E line. Hazlitt & Simmons Corp.'s, W. T. Waggoner Bldg., Fort Worth, Texas, J. A. Fisher 6, B 2, L. M. Collins sur, 450 ft to S and 750 ft to W line. L. C. Heydrick et al's, Wichita Falls, Texas, W. T. Waggoner 2, S 28, H&TC Ry. sur, 472 ft to E and 152 ft to S line. R. T. Couch Oil Corp.'s, Box 797, Wichita Falls, Texas, W. J. Donohoo 14, Robertson sur, 300 ft S No. 9. Bonchil Co.'s, Wichita Falls, Texas, H. Beach 21, C. T. Ry. No. 4 sur, 300 ft S No. 15. Fresno Oil Co.'s, Box



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Safety Belt.

108, Wichita Falls, Texas, A. F. Dodson 1, R. Hornsby sur, 185 ft to S and 1070 ft to W line. Humble Oil & Ref. Co.'s, Wichita Falls, Texas, Waggoner Bros. 2, M. A. Willis sur, 700 ft to E and 900 ft to S line.

Wilbarger County—Ray & Massie's, City Nat. Bank Bldg., Wichita Falls, Texas, Bond, Hawkins & Williams 9, S 100, H&TC Ry. sur, 50 ft N No. 6; Bond, Hawkins & Williams 10, S 100, H&TC Ry. sur, 50 ft E No. 2. South Vernon Oil Co.'s, Vernon, Texas, C. Zipperle 2, S 84, H&TC Ry. sur, 150 ft to S and E lines. E. A. Durham's, Sistersville, W. Va. W. T. Waggoner 2, B 2, H&TC Ry. sur, 150 ft to N and W lines. Texhoma Oil & Ref. Co.'s, Wichita Falls, Texas, D. B. Franklin 1, S 5, H&TC Ry. sur, 150 ft to N and E lines. Brewer and Darsey's, Box 645, Electra, Texas, C. Shmoker Jr. 1, S 112, H&TC Ry. sur, 150 ft to N and W lines. Oxford Oil Co.'s, Keystone Bldg., Houston, Texas, W. T. Waggoner 1, S 99, H&TC Ry. sur, 150 ft to S and 165 ft to E line; W. T. Waggoner 2, S 99, H&TC Ry. sur, 300 ft N No. 1.

Webb County—Rydal Oil Co.'s, Texas Nat. Bank Bldg., San Antonio, Texas, Puig Bros. 9, B 53, A. L. Edgington, 700 ft S No. 6.

Wilson County—C. E. Mahone's, 310 Caroline St., San Antonio, Texas, Wm. Green 2, F. Flores No. 20 sur, 300 ft to N and 150 ft to W line.

Young County—Texas Co.'s, Wichita Falls, Texas, W. E. Gambrell 19, BBB&C Ry. sur, 450 ft to W and 3030 ft to S line. Gulf Production Co.'s, Fort Worth, Texas, W. E. Gambrell 2, S 1, BBB&C Ry., 300 ft S No. 1; H. Haygood 1, 237 TE&L sur, 589 ft S No. 1; G. B. Hamilton 1, I. Holman sur, 150 ft to S and E lines; G. B. Hamilton 2, I. Holman sur, 300 ft N No. 1; G. B. Hamilton 3, I. Holman sur, 300 ft W No. 1. Humble Oil & Ref. Co.'s, Houston, Texas, B. Schlegle 7, S 1, BBB&C Ry., 600 ft to N and 410 ft to W line; B. Schlegle 8, S 1, BBB&C Ry. sur, 300 ft S No. 7; B. Schlegle 9, S 1, BBB&C Ry. sur, 300 ft S No. 6; B. Schlegle 10, S 1, BBB&C Ry. sur, 300 ft S No. 4; B. Schlegle 11, S 1, BBB&C Ry. sur, 300 ft S No. 8. Panhandle Ref. Co.'s, Wichita Falls, Texas, W. E. Gambrell 2, S 1, BBB&C Ry. sur, 150 ft to S and W lines; H. E. Keys 1, B 12, H&TC Ry. sur, 660 ft to W and 150 ft to S line. Burns & Maxon's, First Nat. Bank Bldg., Wichita Falls, Texas, A. Wilborn 1, 84 TE&L sur, 150 ft to N and E lines. F H E Oil Co.'s, Staley Bldg., Wichita Falls, Texas, S. Groves 2, 161 TE&L sur, 300 ft E No. 1. Simms Oil Co.'s, Dallas, Texas, J. D. Carpenter 3, 237 TE&L sur, 354 ft N No. 1; J. D. Carpenter 4, 237 TE&L sur, 400 ft W No. 3. Multiple Oil Co.'s, Box 744, Wichita Falls, Texas, G. B. Hamilton 3, I. Holman sur, 300 ft S No. 1. Hamilton & Wilson Waggoner Bldg., Wichita Falls, Texas. H. Haygood 3, 237 TE&L sur, 300 S No. 1. Wichtex Oil Co.'s, Waggoner Bldg., Wichita Falls, Texas, B. Furr 1, 324 TE&L sur, 150 ft to N and W lines.

W. E. MacEwen, vice president and general manager of the National Refining Company, is away from company headquarters in Cleveland, Ohio, on a tour of inspection through the Mid-Continent field where the National has producing, refining and marketing properties.

Robert Law Jr., of New York, chairman of the board of the Barnsdall Corporation, is in the Mid-Continent field on a trip of inspection of company properties.

H. M. Stalcup, executive officer to the president of the Skelly Oil Company at Tulsa, has been named vice president in charge of production of the company. W. D. Hume assumes the duties formerly attended to by Mr. Stalcup.

WILDCATS FROM ALL SECTIONS

Much Touted Fault Tests Are Dusters

By H. H. King
Staff Representative

Corsicana, Texas, April 14.—A recognized potential threat to the price structure of the Mid-Continent crude market was eliminated late last week in the completion of dry holes by three wildcat tests drilled within a 5½ mile stretch along the East Central Texas fault line in Henderson and Kaufman Counties. The geology developed on these three locations through core drilling and surface work indicated favorable possibilities of a producing structure being uncovered, but the logs of the holes proved that the Woodbine sand formation lies structurally low and void of any showings of oil and gas. Widespread interest in the drilling of these tests was aroused owing to the fact that the acreage in the play was closely held by major companies and individuals who would push developments to the utmost in the event oil should be found, thereby endangering the light oil market. It was also generally known that the Humble Oil and Refining Company had paid a consideration aggregating close to one million dollars for a lease block located between these wildcats.

No Immediate Danger

The removal of this trio of wildcats from the active list leaves the fault region without an immediate threat of an important pool being uncovered for some weeks to come. However, the Gulf Production Company and Kirby Petroleum Company's wildcat on the Mattie Green land at Bazette is logging formations more favorable than any of the previous tests drilled on this highly touted structure. The Green test encountered the top of the Austin chalk formation at 2182 feet, and at late reports was still in very hard chalk at 2510 feet. Since the Bazette structure has been reduced by previous failures to a small proposition, the completion of the Green wildcat is not due to attract unusual attention.

Two of the wildcats completed last week were in Henderson County, and the owners held comparatively small lease protection for a wildcat adventure. The Humphreys-Boyd Oil Company, Texas Pacific Coal and Oil Company, Penn and Windsor, P. N. Wiggins and the Atlantic Oil Producing Company participated in the drilling and financing of the test drilled on the G. E. Murphy 30-acre lease, Jas. M. Gardner survey. This test encountered Austin chalk at 2723-58 feet, with a surface elevation of 322.9 feet, and logged the top of the Woodbine at 3171 feet. The hole was abandoned in shale at 3262 feet. About 1600 feet to the southeast of this location, Cranfill, Murchison & Fain and Marland Oil Company drilled on the J. W. Springer 24½ acre lease. This test logged the Austin chalk at 2210-2615 feet, with a surface elevation of 306 feet, and had Woodbine sand at 3200-42 feet. It was abandoned in slate at 3300 feet. About 5½ miles to the northeast and across the line in Kaufman County, Cranfill, Murchison & Fain and Marland Oil Company's O. P. Duff 1 logged Austin chalk at 2421-2870 feet, with a surface elevation of about 330 feet, and quit in dry Woodbine at 3280 feet.

Humble to Drill

Since Humble's high priced block is situated between these failures, the possibilities of Humble's realizing from its investment have been greatly reduced, although it is predicted that the Woodbine formation will be explored by Humble before surrendering its leasehold. Humble has conducted extensive core drilling on its leases, and has erected a water reservoir as a precautionary step in the event of an oil strike by nearby wildcatting. The position occupied by Humble in relation to the location of these three wildcats became generally known early last week, with the result that the stock buying public bid Humble's stock up to a new high for the year, as an oil strike by the three tests would have made its holding worth between 59 and 75 million dollars, providing the tests were on the same structure.

A try for production in the Trinity sand is to be made by Marland Oil Company's wildcat test on the Bauknight-Fee land, Jas. Hamilton survey No. 22, in the south central part of Hunt County, and drilling is now progressing below 3670 feet, with the Trinity expected around the 4000 foot level.

Big Lake Field Gets Three More Flowing Wells

San Angelo, Texas, April 13.—Three flowing wells brought in at the close of the past week in the Big Lake field, located in West Texas, boosted daily production well above the 15,000 barrel mark, and daily average production for the past seven day period was reported at 14,055 barrels from 17 flowing and pumping wells. This is an average of 827 barrels per well. The producing area was widened one-half mile to east by the completion of the Texon Oil and Land Company's University 5, Group 1, C NE section 36, block 9, with an initial flow of 2980 barrels pipe line oil from sandy lime pay at 3006-30 feet. The same company's University 9, C SW SW section 36, block 9, made 1715 barrels initial from pay at 2985-3018 feet after logging the top of the lime at 2905 feet with a surface elevation of 2761.2 feet. The Big Lake Oil Company's University 18, C SW section 25, block 9, is flowing at rate of 65 barrels of oil per hour from top pay at 2899 feet. The eighteenth wildcat failure for Reagan County was completed last week when the Pilot Oil Corporation's University 1, section 11, block 9, began plugging at 3300 feet.

Two New Tests

Culberson County, located in the extreme western part of the state, is to be given two deep wildcat tests, and protection acreage is being taken by many of the major companies in the Mid-Continent district. The California Company, an operating subsidiary of Standard of California, has made location on the Grisham Brothers ranch 330 feet each way from the southwest corner of section 18, block 91, Public School lands, about 35 miles west of Toyah. This wildcat is contracted to go to 3500 feet with cable tools, unless production is obtained. Grisham Brothers and associates have made location to drill on the Grisham ranch in section 5, block 93, and the drilling costs will be shared by Gulf, Sun Oil Company and other large operators in the Mid-Continent district having nearby lease protection.

Gulf Production Company has taken the lead over all companies and individuals in wildcat activity in West Texas counties, and is now drilling in Reagan, Pecos and Glasscock counties, as shown in the accompanying wildcat drilling report. A location was made by Gulf last week for a wildcat test in the southwest part of Garza County on the Slaughter ranch in section 18, Jasper Hays survey, and north of the Double Mountain Fork of the Brazos river. The Mid-West Exploration Company, a subsidiary of the Mid-West Refining Company of Denver, is

taking lease protection and conducting an extensive geological survey in Garza County, while it is reported that negotiations are pending for the purchase of the lone oil producer in the county. This discovery well is owned by the Armeda Oil Company, and is making about 10 barrels daily on pump from sandy-lime pay at 2380-2443 feet.

Another Producer

Another completed oil producer has been obtained in Scurry County by the Northwest Company of Denver without the use of a boiler or steam in driving a steam engine. This company's J. J. Moore 2, located 690 feet north of the discovery well in section 116, block 97, was drilled with power supplied by non-inflammable gas from bradenhead of the discovery well, and swabbed at rate of 35 barrels daily from lime pay at 1800-1840 feet after small shot. The non-inflammable gas was piped from the discovery well to a makeshift gas trap erected along side the regular type of steam drilling engine, and the gas substituted for steam in driving the engine. This gas provides an ideal drilling power for both deep and shallow tests, and affords a great saving in cost of fuel and water.

Mitchell and Sterling Counties have added a number of wildcat locations within the past six weeks, and lease activity has been centering along the Marathon fold between the Westbrook field and the Big Lake field in lower Reagan County, a distance of approximately 100 miles. Although Mitchell County has been producing oil since October, 1920, the absence of flush production has retarded development of leases to a great extent. The oil producing horizon is now attracting outside companies and operators by reason of the slow depletion of wells, and renewed activity has resulted from the presence of these new comers to the district. Mitchell County has 42 pumping wells on the active list, with a daily average of about 43 barrels per well daily, and independent refiners are buying all crude offered.

Central West Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Brown County—		
Canyon Oil & Gas Co. et al McDonough 4-B	*	1345
Gillman et al Newton 8	50	1266
Gillette et al Prather 2	80	1321
Moore & Wilson et al Gafford 1	300	1243
Mahlstedt-Mook Oil Co. Newton 7	100	1292
Mitchell County—		
The California Co. Abrams 8	85	3010
Pecos County—		
Arkansas Fuel Oil Co. Blackstone-Slaughter 1	*	3395
Reagan County—		
Pilot Oil Corp. University 1, (sec 11, blk 9)	*	3300
Big Lake Oil Co. University 18, (C SW sec 25, blk 9)	1560	2900
Texon Oil & Land Co. University 5-A, (C NE sec 36, blk 9)	2980	3030
University 9-A, (C SW SW sec. 36, blk 9)	1715	3018
Scurry County—		
Northwest Co. J. J. Moore 2	30	1840

DRILLING REPORT

BROWN COUNTY — Cal-Bro Oil Synd.'s Prather 3, spudding. Canyon Oil & Gas Co. et al's Ellsberry 3, sd 600 ft. Gillman et al's Newton 9, lcn. Gillman & McMurray's Teston 2-A, rig; Teston 3, lcn. Gillette et al's Prather 3, lcn. Lowe-Delaney & Carter's Williams 1, sd 800 ft. Mahlstedt-Mook Oil Co.'s Gaines 4, lcn; Newton 6, lcn; Newton 8, dr 660 ft; Newton 9, rig; Newton 10, lcn, lcn. Mendenhall et al's Newton 3, dr 940 ft; Newton 4, lcn. Moore et al's Gafford 1, rig; Teston 3, spudding. Moore & Wilson's Gafford 2 and 3, lcns; Westerman 3, rig. MuMurray et al's Newton 4, dr 1190 ft. Ward Oil Co.'s Windham 1, sd 1190 ft. Williams et al's Newton 1, sd 1320 ft.

CALLAHAN COUNTY — Byron-Union Oil Co.'s Hennessey 1, dd, co 4540 ft. L. D. Prewitt et al's G. T. Crane 1, sd 2070 ft; W. W. Crane 1, sd 1962 ft; Linecuum 1, sd 1580 ft; Windham 2, spudding. Seaboard Oil & Gas Co.'s Isenhower 3-A, spudding. Urban et al's Alvord 1, ur 2425 ft.

COLEMAN COUNTY—Canyon Oil & Gas Co.'s Morris 1, rig. D. R. Bailey et al's Kelly Grady 1, sd 910 ft.

PALO PINTO COUNTY — Burton-McKee Oil Corp.'s Strawn Coal Co. Fee 4, dr 1115 ft. J. D. Cranford & Singleton's L. Smith 1, sd 1805 ft. Cameron & Anderson's Pollard 2, sd 1700 ft. Hart et al's Cardwell 1, making gas and water 1382-93 ft; Cardwell 2, machine. Hart Oil Corp.'s Orme 1, dr 760 ft. Hughes et al's Weldon 2, dr 4365 ft. Little Caddo Oil Synd.'s Massie 2, dr 1450 ft. Owens & Burkett's Chestnut 1, dr 2990 ft. Pender Production Co.'s Rasmussen 1, dr 350 ft. Scott & McCluer's Wheeler 3, dr 3715 ft.

PARKER COUNTY—English et al's Peters 1, set 10-inch cas 826 ft. G. E. LaBeaume et al's Evans 1, sd 2100 ft.

BREWSTER COUNTY—Green Valley Oil Corp.'s W. A. Wilson 3, dr 1825 ft.

COKE COUNTY—West Virginia Oil Marketing Assn.'s J. R. Mims 1, fsh 2410 ft.

CONCHO COUNTY — Dome Production Co.'s Mrs. Hartgrove 2, fsh 1230 ft.

CRANE COUNTY — Penn-Tex Dev. Co.'s Jax Cowden 1, rig.

CROCKETT COUNTY—J. S. Cosden et al's University 1, sec 34, blk 12, sd hole full water 2725 ft. World Co.'s L. P. Powell 1, fsh 2460 ft. Red Ball Oil Co.'s University 1, sec 5, blk 29, rig.

CULBERSON COUNTY — The California Co.'s Grisham Bros. 1, lcn in SW corner sec 18, blk 91, Public School Lands. Grisham Bros. et al's Fee 1, lcn in sec 5, blk 93.

GARZA COUNTY—Gulf Production Co.'s J. B. Slaughter 1, lcn in sec 18, Jasper Hays sur. Armeda Oil Co.'s J. M. Boren 1, pumping 10 bbls 2443 ft; Connell 1, sec 7, blk 6, sd 600 ft pending trade with Mid-West Exploration Co. McDaniel-Mitchell et al's Connell 1, sd 2615 ft. S. A. Sloan et al's Connell 1, rig.

GLASSCOCK COUNTY—Gulf Prod. Co.'s L. S. McDowell 1-C, dr 3480 ft.

IRION COUNTY—Chas. Denny-Andrews et al's D. E. Hughes 1, dr 600 ft. W. A. Stout & Gladys Belle Oil Co.'s J. D. Sugg 1, sec 27 blk 2, salt water at 1830 ft.

KENT COUNTY—Marland Oil Co.'s F. E. Kuteman 1, sec 11, blk 4, dr 360 ft.

LOVING COUNTY—P. V. Petroleum Co.'s N. E. Chapman 1-A, sd 800 ft.

MITCHELL COUNTY—Eastland Oil Co.'s W. D. Keynard 3, dr 2650 ft. Eastland & Atlantic Oil Prod. Co.'s J. W. Clark 1, dr 2630 ft. The California Co.'s Paul Elder 1-A, dr 2500 ft; Paul Elder 2-A, dr 100 ft; Paul Elder 2-B, rigging up; Eddleman et al's A. C. Gist 1, sd 3410 ft. Morrison & Fairchilds' M. E. Towles 1, sec 157, blk 97, rig. Morrison & Thompson's C. M. Adams 1, dr 2240 ft; Womack 1, lcn. Sloan et al's Scott 1, dr 800 ft; Sam Smart 6, dr 815 ft; Smart 7, dr 740 ft. West Texas Pet. Co.'s H. C. Miller 4, dr 1225 ft.

PECOS COUNTY — Gulf Production Co.'s White-Baker 1, sec 85, blk 194, dr 1680 ft.

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Adams Oil Co.'s Devlin 1, ur to set cas 570 ft. Plymouth Oil Co.'s Perry Ranch 1, dr 2500 ft.

REAGAN COUNTY — Big Lake Oil Co.'s University 16, C SE sec 1, blk 2, pulling pipe 2941 ft; University 17, dd, C NE sec 1, blk 2, rigging up rotary, td 2440 ft; University 19, C SE SE sec 12, blk 2, dr 2480 ft; University 20, C SW SW sec 25, blk 9, sd repairs 2464 ft; University 22, C SE NE sec 1, blk 2, dr 2100 ft; University 23, C NE SE sec 1, blk 2, dr 2475 ft; University 24, C SE SE sec 1, blk 2, fsh collapsed 8¼ cas 2775 ft; University 25, C SE SW sec 25, blk 9, sd 2477 ft; University 26, C SW SE sec 25, blk 9, rig. The California Co.'s University 1, sec 13, blk 8, dr 3550 ft. B. H. Cogdell et al's University 1, sec 23, blk 8, rig. W. H. Dunning et al's J. D. Sugg 1, sec 85, T. & P. sur, blk 2, materials. Gulf Production Co.'s University 1, sec 1, blk 1, dr 660 ft. P. H. Hoffman et al's University 1, sec 23, blk 11, dr 2715 ft. McCamey-Johnson et al's University 1, SE SW sec 13, blk 9, dr 2200 ft. H. B. McGuire et al's C. W. Merchant 1, sec 12, L. S. & V. Ry sur, blk "A", dr 1790 ft. J. T. Stover et al's University 1, sec 34, blk 11, sd 200 ft. Texon Oil & Land Co.'s University 6-A, C NW NW sec 36, blk 9, dr 2515 ft; University 7-A, C SW NW sec 36, blk 9, dr 2790 ft; University 8-A, C C NW SW sec 36, blk 9, running 6¾ cas 2700 ft; University 10-A, C NE NW sec 36, blk 9, spudding; University 11-A, C NW NE sec 36, blk 9, spudding; University 12-A, C SE NW sec 36, blk 9, spudding; University 13-A, C NE SW sec 36, blk 9, rig; University 14-A, C SE SW sec 36, blk 9, rig; University 2-B, C SW sec 26, blk 9, dr 2865 ft; University 3-B, C NW SW sec 35, blk 9, dr 2595 ft. University Oil Co.'s University 1, sec 17, blk 10, sd 2795 ft.

STONEWALL COUNTY—Elder Nance et als' Ward 1, dr 2105 ft.

STERLING COUNTY — Chicago-Texas Oil & Gas Co.'s D. C. Durham 1, dr 1815 ft; Durham 2, sd 1406 ft. Pettit & Adkisson's C. C. Reynolds 1, dr 200 ft. Co-Operative Lease & Dev. Co.'s Douthitt 1, co 2000 ft. Bushnell & Krous' J. J. Dennis 1, lcn. Geo. Northrup et al's Lay Powell 1, lcn. Kanawah-Angelo Oil Co.'s L. T. Clark 1, dr 150 ft. Ford & Cogdell et al's W. L. Foster 1, sd 1820 ft. Wrightsman Pet. Co.'s W. L. Foster 1, sec 2, blk "A", lcn. Chas. L. Harty et al's Fee 1, sec 43, blk 2, lcn.

UPTON COUNTY — Big Mesa Oil Co.'s University 1, sec 17, blk 3, dr 350 ft. Bell-Regan et al's University 1, sec 2, blk 4, sd 310 ft. Scruggs-Chancellor et al's University 1, sec 6, blk 4, spd and sd. W. P. Morris et al's H. M. Halff 1, sd 445 ft.

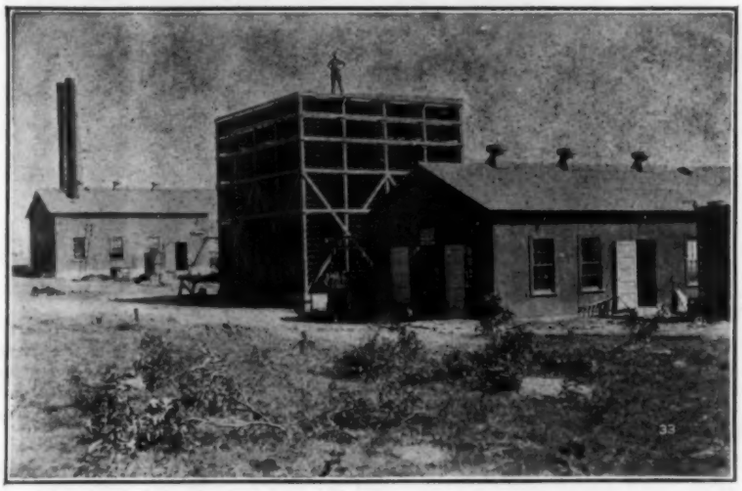
North Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Clay County—		
J. W. Culbertson et al Fee 1.....	*	2000
Gulf Prod. Co. Carl M. Worsham 5	250	3405
Halmack Oil Co. J. O. Gore 1	*	1742
Montague County—		
Daniels-Rutis et al S. E. Howard 1	*	1820
Petroleum Producers Co. C. H. Howard 1	*	2350
Texhoma Oil & Ref. Co. N. J. Howard 3	45	1397
Throckmorton County—		
McKee et al J. K. Keeter 1	*	1416
McNeil et al Travis School Lands 1	*	2001
Plains Prod. Co. Peck-Edsall 1....	*	1510
Wilbarger County—		
Hoffer Oil Corp. et al Waggoner 1	*	2358
G. Clint Wood et al A. Streit 1..	*	2585

Frederick A. Stubbs, well known oil operator in the Rocky Mountain and Mid-Continent sections, died at Denver, Colorado, April 7, after a brief attack of influenza.

ENGINEERS & CONTRACTORS IN NATURAL GAS AND OIL



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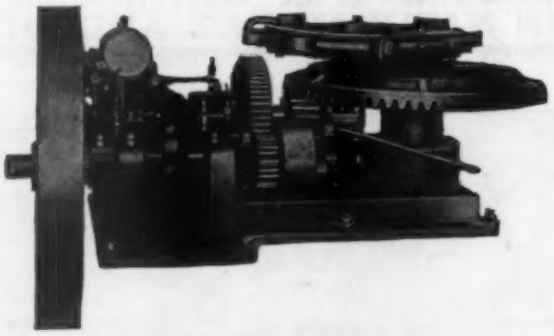

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THE TRACTION MACHINE COMPANY

NORTH BALTIMORE, OHIO

Coastal Wildcats

ANGELINA COUNTY—Ferdinand Heine's S. W. Henderson 2, blk 11, J. H. Ellison sur, 200 ft to W and 150 ft to S line, dr 450 ft; S. W. Henderson 3, 300 ft N No. 2, blk 11, J. H. Ellison sur, 200 ft to W and 450 ft to S line, dr 200 ft.

BRAZORIA COUNTY—D. F. Bryan Production Co. & Hamm et al's Bryan 1, at Freeport, J. G. McNeel sur, dr 3481 ft. Z. Gayle & Dunsmoor 2, W. J. Russell sur, ¼ mile E No. 1, 6 miles S Angleton, installing heavy rig.

BRAZOS COUNTY—Bryan Pet. Co.'s Watthuber 1, 2 miles S College Station, C. Burnett sur, sd at 2500 ft.

CHAMBERS COUNTY—Sam J. Hindman's Bullock-Collier 1, Collier 200-acre lease, Griffith league, 2891 ft to W and 60 ft to S line, dr 3225 ft.

FORT BEND COUNTY—Gulf Prod. Co.'s Moore 4, John M. Moore lease, dr 640 ft. Pathfinder Oil Co.'s Pinkney 1, T. F. Pinkney sur, 400 ft NE of N cor sec 111, 300 ft NE of E cor sec 101, 1 mile E Davis & Co. 2, dr 1256 ft. James W. Rich et al's Moore-Hager 2, at Big Creek, 300 ft NE No. 1, SE side of dome, dk. Rycade Oil Corp.'s Fritz Meier 1, 800 ft E of SW cor and 200 ft N of S line of Fritz Meier 207.7-acre tract, dr 1243 ft; Nash 1, 200 ft S and 2600 ft E of NW cor Capt. Nash's 200-acre lease, dr 3186 ft; Nash 2, Alsberry sur, 400 ft E and 600 ft S of NW cor Nash's 486-acre tract, 28 degrees NW and 4650 ft NW of No. 1, dr 4825 ft.

GALVESTON COUNTY—Gulf Prod. Co.'s George E. Smith 2, at High Island, fsh for cas at 3200 ft.

GRIMES COUNTY—J. E. Cuthrell's Ruth 3, NE of Carlos, dr 1730 ft; No. 3, near Carlos, sd at 3500 ft; No. 5, (shallow test) dr 200 ft. G. F. Gerrell's C. M. Mobley 1, Holland sur, abn below 2910 ft. L. F. McCausland et al's G. W. Dodd 1, 3 miles W Iola, 150-acre tract of Dodd farm in Timothy Jones league, dr 2781 ft.

HARDIN COUNTY — Kirby Pet. Co.'s Kirby-Capitol 2, near Batson, Hodges 202-acre lease, 150 ft N and 20 ft E of No. 1, sd at 2950 ft, setting up 3½-inch dr stem.

HARRIS COUNTY — Dome Dev. & Pet. Co.'s Schneider 1, Schneider farm, John D. Taylor sur, blk 41, temp abn. The Texas Co.'s Warren 1, 3 miles S Hockley, 400 ft NE Staiti 17 and 10 degrees to E of line drawn through Nos. 13, 15 and 17, dr 3370 ft; Warren 3, 750 ft NW No. 2, dr 770 ft.

JACKSON COUNTY — Houston Oil Co.'s Rose & Sample 1, 7 miles W of Edna, Rose & Sample tract, rigging up; No. 2, lcn. Jackson County Oil Synd.'s Drushell 2, bridged over at 1085 ft. Vanderbilt Pet. Co.'s Seliner 1, 4 miles N Vanderbilt, C. W. Hall subdivision of Harwood Burns ranch, sd at 2720 ft. Jackson County Oil Synd.'s Drushell 3, 7 miles NW of Edna, on Horseshoe lake, dr below 2300 ft.

JEFFERSON COUNTY—Houston Oil Co.'s Sun Davis 1, Seth Davis tract, fsh 1555 ft; Pipkin 10, 934 ft S Pipkin 5, Pipkin sur, dr 2436 ft. Paggi Bros.' Wilson Hardware Co. 1, ¾ mile SW Miller 1, dr 785 ft.

LIBERTY COUNTY—Sinclair Oil & Gas Co.'s Condict Fee 1, David Minchey leaugue, 800 ft W of line drawn due south from Gulf's Van Deventer 1, dr 1446 ft.

MATAGORDA COUNTY — Marland Oil Co.'s of Texas Murphy 1, Jeremiah Dwyer sur, 4908 ft. Rycade Oil Corp.'s Gray 2, 600 ft N of S line and 1400 ft W of E line of blk 2, dr 3430 ft. Sheppard Mound Oil Co.'s Hawkins 2, offset to Marland's Murphy 1, 3000 ft E of Commonwealth Oil Co.'s Hawkins 1, 1000 ft SE No. 3, sd at 1400 ft, repairing rig.

SAN JACINTO COUNTY—C. O. Fleming et al's No. 1, northern part of county, dr 580 ft.

WALKER COUNTY—Big Ridge Oil & Gas Co.'s No. 1, 14 miles N Huntsville, 12 mile W of Riverside, Eastham sur, dr; No. 2, dr.

WHARTON COUNTY — Gulf Prod. Co.'s Hackstedt 1, S. F. Austin sur, 769 ft to W and 1035 ft to S line, dr in gypsum at 2200 ft; Felder 3, td 3934 ft, reaming at 3200 ft. Texas Co.'s Taylor 1, at Boling, dr 380 ft.

East Central Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Henderson County—		
Cranfill-Murchison-Fain & Marland Oil Co. J. W. Springer 1	*	3300
Humphreys-Boyd Oil Co. - Penn-Windsor et al G. E. Murphy 1..	*	3262
Kaufman County—		
Murchison-Fain-Cranfill & Marland Oil Co. O. P. Duff 1	*	3280
Limestone County—		
F. Smith et al Arnett 2 (Groesbeck Dist.)	¶1½	2985
Stroud et al Stroud 1, (Groesbeck Dist.)	¶½	2969

DRILLING REPORT

FALLS COUNTY — Harrison-Bletch & Thompson's B. & T. 1, (W. A. Mitchell sur) dr 2250 ft. Reiter-Foster Oil Corp. et al's L. T. Williams 1, (J. W. Robinson sur) sd 879 ft.

FANNIN COUNTY—Lester Pet. Co.'s S. D. Graves 1, sd indefinitely 3015 ft.

FRANKLIN COUNTY—Arkansas Fuel Oil Co.'s H. W. Tittle 1, (T. Willison sur 590) dr 1095 ft.

HUNT COUNTY — Marland Oil Co.'s P. Bauknight-Fee 1, (J. Hamilton sur 22) dr hard lime 3675 ft. Sam Tallal & Kelsey et al's J. W. Barnett 1, (Alex Smith sur) dr 1575 ft. Rycade Oil Corp.'s Dr. Lyttle 1, (Jas. McAdams sur) dr dry sand 3370 ft.

KAUFMAN COUNTY — Humphreys-Boyd Oil Co.'s Britton 1, (Timothy Devore sur) lcn. F. E. Skinner et al's Becker 1, (T. H. Eaton sur) rigging up.

LIMESTONE COUNTY—Bains Creek Oil Co.'s Kennedy 1, dr 2700 ft. Leak et al's Stitt 1, sd 3050 ft. DeArmond et al's Welsh 1, dr 2100 ft. Hurdleston et al's Gill 1, dr 550 ft. Pure Oil Co.'s J. W. Webster 1, dr 3265 ft. Magnolia Pet. Co.'s R. Kennedy 1, rig.

MILAM COUNTY—Magnolia Pet. Co.'s M. M. Kime 1, (S. P.Carson sur) spudding.

NAVARRO COUNTY — Gulf Prod. Co. & Kirby Pet. Co.'s Mattie Green 1, (Bazette Dist.) top Austin chalk 2182 ft, dr chalk 2510 ft. Elliott & Nicolle's Westbrook 1, (Kerens Dist) sd 3455 ft; Barry 1, dk abn. Simms Oil Co.'s W. N. Smith 1, (M. Autry sur) Austin chalk at 2184-2535 ft, dr shale 3035 ft. Strotman et al's Bounds 1, sd 3105 ft. Richardson & McAllister's Mulligan 1, 5 3/16 cas at 3176 ft.

RAINS COUNTY—Texas Pacific Coal & Oil Co.'s A. A. Humphreys 1, (J. H. Garrett sur) dr 2000 ft.

ROBERTSON COUNTY—Reiter-Foster Oil Corp. et al's W. M. Hill 1, (John Welch sur) lcn.

TITUS COUNTY — Magnolia Pet. Co.'s George Antone 1, (near Talcy) crooked hole 2875 ft.

Texas Panhandle Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Hutchinson County—		
Western Enterprise Oil & Gas Co. Smith et al 1	10	2880
J. W. Wilson et al J. A. Whittenburg 1	250	2913

DRILLING REPORT

CARSON COUNTY — American Ref. Co.'s Burnett 1-C, dr 1175 ft. Crosbie Oil Co.'s Burnett 2, cemented 10-inch cas 1816 ft. Culberson et al's V. B. Armstrong 1, sd 3560 ft. Gulf Prod. Co.'s Burnett 6, co 3055 ft; Burnett 7, 8¼ cas at 2832 ft; Burnett 8, dr 1500 ft. Hicks & Schoonmaker's Burnett 1, rig. Magnolia Pet. Co.'s Burnett 1, dr 450 ft. Olson Bros. et al's Burnett 1, sd 2860 ft. Premier

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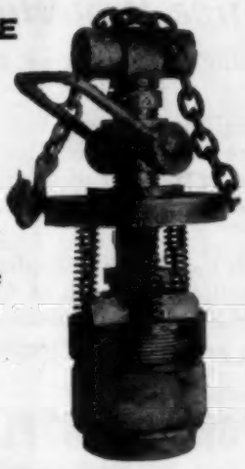

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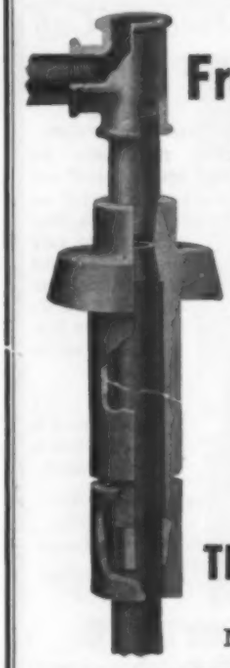

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Oil Corp.'s Burnett 1, sd making 40 million ft gas 2860 ft. W. W. Silk et al's Burnett 4, spudding; Burnett 5, lcn. The Texas Co.'s Burnett 5, ur to kill gas and water 2880 ft; Burnett 6, lcn; M. C. Burnett 2-A, spraying 50 bbls oil 2904 ft; M. C. Burnett 3, dr 260 ft.

COTTLE COUNTY—T. J. Woodley et al's A. Dulaney 1, dr 2935 ft.

DICKENS COUNTY — Bowser-Mickels et al's Pitchfork Ranch 1, collapsed cas 350 ft.

GAINES COUNTY—J. J. Mundy et al's M. C. Lindsey 1, lcn.

GRAY COUNTY—A. R. Anderson-Bock et al's Beavers-Bradford 1, dr 2285 ft. C. H. Clark et al's Coombs-Worley 1, making 4 million ft gas 2785 ft. Danciger Oil & Ref. Co.'s J. B. Bowers 1-A, dr 2200 ft. W. H. Holmes' J. B. Morse 2, co after shot 2705-15 ft, td 3147 ft. Wilcox Oil & Gas Co.'s Coombs-Worley 2, dr 1840 ft.

HUTCHINSON COUNTY — Amarillo Oil Co.'s L. Bivens 2-B, setting 6⅝ cas 2895 ft. R. G. Barnum et al's Johnson Bros. 1, estimated 30 bbls oil 3016-22 ft, td 3055 ft. Dixon Creek Oil Co.'s Smith et al 2, rig. Gulf Prod. Co.'s Dial-Perkins 2, rig. J. H. Middleton et al's J. Weatherly 1, spd and sd. New Domain Oil & Gas Co.'s L. E. Barton 1, rig burned, 2690 ft. Panhandle Ref. Co.'s Dial-Perkins 1, dr (rotary) 535 ft; Dial-Perkins 2, lcn; J. A. Whittenburg 1, lcn. Prairie Oil & Gas Co.'s D. Shaw 1, setting 5 3/16 cas 3335 ft.

MOORE COUNTY — Amarillo Oil Co.'s Masterson 1-A, rebuilding burned dk, td 2320 ft.

POTTER COUNTY—Amarillo Oil Co.'s J. C. Warrick 1-A, spraying salt water 3030 ft; W. H. Bush 1, fsh cas 3495 ft.

ROBERTS COUNTY — Phil Engle et al's Mrs. Lederick et al 1, ur cas 2010 ft.

WHEELER COUNTY—Angus et al's Ember 1, rig. W. D. Sheddon et al's B. F. Westmoreland 1, sd for cas 1100 ft. Texhoma Oil & Ref. Co.'s J. H. Jackson 1, rig; J. H. Jackson 1-A, rig. Vaughan & Pendleton's P. W. Krey 1, dr 810 ft. J. O. Whittington et al's Williams & Laycock 3, dr 1825 ft; Williams & Laycock 4, dr 1575 ft; G. W. Porter 1, rig.

San Antonio District Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Jim Hogg County—		
Big Bend Oil Co. Martinez 8	380	....
Magnolia Pet. Co. Oscar Thompson 5	75	....
Kitselman & St. Albans Interests' 8.	200	....
No. 9	500	....

DRILLING REPORT

ATASCOSA COUNTY — DeLange-Eiser Co.'s Tom 2, dr 4600 ft.

BEXAR COUNTY — Aviators' Swearingen 1, dk. J. M. Davis et al's Koch 1, no report. White & Hampton's Swearington 1, sd.

DUVAL COUNTY — Co-Operative Drilling Co.'s Dinn 1, sd 2070 ft. Mesquite Oil Co.'s No. 1, setting liner. Hill-Pierce Corp.'s Martinez 1, dr. O. W. Killam's Benavides 1, dr 1480 ft; Benavides 2, setting 6-inch at 1665 ft.

GUADALUPE COUNTY — J. K. Hughes Dev. Co.'s Allen 20, no report. Allen Burman's Bailey 1, lcn. United North & South Oil Co.'s Fulshear 1, dr 2200 ft. Tinnell's W. J. Tiller 1, producing 500 bbls. Magnolia Oil Co.'s Nos. 13 and 14, dr. Jennings et al's Vogel 1, rebuilding dk. Ross & Green's Pryor 1, sd. Stebbins Oil & Gasoline Co.'s Lenz 1, dk. W. B. Pittman et al's Hy Thomas 1, sd 1950 ft. Flick et al's Weinert 1, no report. McClannahan's Herman Lenz 1, dr below 900 ft. J. M. Davis et al's Koch 1, coring. C. N. White et al's Gib Springs 1, sd 2270 ft.

JIM HOGG COUNTY — Buchanan-Plateau Oil Co.'s Nos. 3, set cas; 4, lcn. Rycade-Rydal Oil Co.'s W. P. Allen 1, sur 21, dr. Simms Oil Co.'s Wood 1, sur 84, dr. J. W. Pippin et al's No. 1, sur 291, dr below 900 ft. Buchanan et al's No. 4, dr below 1800 ft. Russell-Hoffman's David Vela ranch 1, dk;

Givens 1, rigging up. Big Bend Oil Co.'s Martinez 5, cemented 6⅝-inch cas at 1900 ft; Martinez 6, dr below 1050 ft; Martinez 8, producing 380 bbls. Cole Pet. Co.'s No. 7, 50 million cu. ft gas. Mirando Oil Co.'s No. 11, set cas at 2048 ft. San-Tex Oil Co.'s No. 1, sur 262, dr below 1000 ft. Magnolia Pet. Co.'s Thompson 4, dr; Oscar Thompson 5, producing 75 bbls; Oscar Thompson 6, dr in. Texo Oil Co.'s Nos. 3, dr 2280 ft; 4, dr 1978 ft. Weber Oil Co.'s Holbein 4, dr 3368 ft. Kitselman & St. Albans Interests' Nos. 6, dk; 7, dr; 8, swabbing 200 bbls; 9, swabbing 500 bbls. Plateau-Wheat's Nos. 3, dk; 4 and 5, lcns. Johnson & DeTray's Vela 1, coring at 1990 ft. Plateau-Texas-Pacific's Freeman 2, no report; 5, dr; 6, cemented cas at 2002 ft. O. W. Killam's Martinez 3, set cas at 1705 ft. Witherspoon Oil Co.'s Holbein 4, sd 1994 ft; Holbein 5, sd 2018 ft. Elliott-Texas-Pacific's No. 2, dr below 2280 ft.

LIVE OAK COUNTY—Gurbstake Investment Assn.'s Nichols 3, no report. Glasscock & Fallin's Charles R. Tips 1, dr below 500 ft. Southern Natural Gas Co.'s Nos. 9, dr; 10, lcn. Coquet et al Hicks 1, dr.

MEDINA COUNTY—Mid-Kansas' J. Hobey 1, dr 1461 ft.

ZAPATA COUNTY — H. J. McMullen's Serapio Vela 1, 2 and 3, lcns. R. K. Bateman et al's No. 1, sur 617, dr.

Mississippi Wildcats

RANKIN COUNTY—New York parties have rig up for a test near Jackson; Finkbine Lumber Co., drilling No. 2 on the Finkbine tract, section 1-3-3.

SCOTT COUNTY—Mississippi Oil & Gas Co., drilling near Forest on the Graham tract.

TALLAHATCHIE COUNTY — Shreveport, La., parties drilling near Charleston.

PERRY COUNTY—Donald Oil Co., drilling on Donald tract, near Richton.

PANOLA COUNTY—Courtland Oil & Gas Co., drilling on the Klehni tract, section 35-27-2.

HOLMES COUNTY—Free Run Oil Co., has well under way near Coxburg, in section 18-13-1.

CLAIBORNE COUNTY—Mississippi Exploration Co., starting well on the Belle Young tract, near Port Gibson; Michael Zinn drilling in section 56-11-1.

GRANADA COUNTY—Borden & Co., drilling near Granada.

MADISON COUNTY—Madison County Oil Co., drilling test on Nichols tract, near town of Madison.

LEAKE COUNTY—Northeast Oil Co., has rig on the J. Gregory tract, near Calhoun City.

ITAWAMBA COUNTY—Steman & Co., drilling on the J. E. Sumner tract, near Fulton.

LINCOLN COUNTY — Anderson Drilling Co., working on a well near Hartman.

WASHINGTON COUNTY—Alhambra Oil & Gas Co., drilling on Williams tract, section 30-14-9.

LOWNDES COUNTY—Anderson Drilling Co., drilling on Billups tract, near Artesia.

LAFAYETTE COUNTY—Kinsey & Co., drilling on H. H. Barkis tract, near Utica.

JACKSON COUNTY—Jackson Oil Co., drilling near Utica.

JEFFERSON COUNTY — Manhattan-Tex Petroleum Co., drilling near Truly.

HINDS COUNTY—Jackson Oil Co., drilling No. 2 near Elton.

COPIAH COUNTY—B. H. White drilling No. 1 White tract, near Hazlehurst. Marshall Oil Co., drilling on Didlake tract.

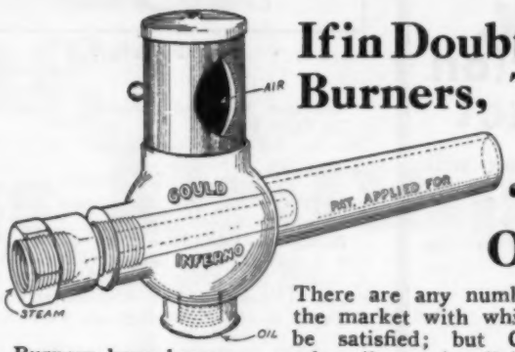
FRANKLIN COUNTY—Fletchering & Co., drilling on McGhee tract, near Jackson.

CHICKASAW COUNTY — Danner Oil & Gas Trust, drilling No. 2 Flarity, near Houston.

CLAY COUNTY—Gulf Development Co., starting well near West Point.

PIKE COUNTY — Mississippi Exploration Co., rig on Poor Farm, near Magnolia.

UNION COUNTY—Minyard Wells Oil Co., rig on Sappington tract, near Wallerville, and same company drilling No. 1 J. Woodson tract, same area.



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Louisiana Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
La Salle Parish—		
Bur-Ban Oil Co.'s Urania 2, 21-11-2e	*	2740

DRILLING REPORT

BIENVILLE PARISH—Roxana Pet. Co.'s Bryan 1, 30-17-6, dr 3470 ft.

BOSSIER PARISH—Boger et al's Atkinson 2, 3-18-12, to set 6-inch 1108 ft; Finouef 1, 8-18-12, dk. Coker et al's Rhodes 1, 31-21-11, set 12½-inch 130 ft. Osborne et al's McDade 2, 32-19-11, pumping salt water with a trace of oil, depth 508 ft.

CADDO PARISH—Dixie Oil Co.'s Dillon 53, 13-21-15, set 6-inch 3575 ft; Jolly 1, 27-22-15, set 10-inch 120 ft; Noel B-1, 24-21-15, dr 4½-inch plug 3450 ft. Flournoy et al's Simpson 1, 8-16-15, dr 1550 ft. Fortuna Oil Co.'s Mitchell 1, 17-18-16, bailing 8-inch casing 1857 ft; Robertshaw 10, 23-21-15, set 4½-inch 3550 ft. Gulf Ref. Co.'s Ferry Lake 69, 14-20-15, dr 2615 ft. Proven Prod. Co.'s Agurs 1, 6-16-16, sd 2464 ft. Haynes Bros.' Louisiana L. S. & P. Co. 1, 8-19-16, ru to deepen, 2330 ft. Stith et al's Pitts 1, 11-23-16, sd 600 ft. The Texas Co.'s Jeems Bayou 1, 15-20-16, set 6-inch 3501 ft; Hutchinson 1, 15-15-12, set 8-inch 915 ft. Woodley & Collins' McVea 1, 23-19-14, sd 1192 ft.

CALDWELL PARISH—W. E. Neill's Cain Hill 1, 21-14-4e, sd 3320 ft.

CLAIBORNE PARISH—Black O. & G. Co.'s Aubrey 2, 20-21-8, testing 770 ft. Claiborne-Lincoln Synd.'s Fields 3, 22-19-5, r 2260 ft. Clark & Melat's Heard 1, 5-21-6, sd 2005 ft. Collins & Woodley's Oakes 1, 8-20-5, dr 2020 ft. Triangle Drilling Co.'s Cox 1, 7-19-5, coring 2050 ft.

DE SOTO PARISH—Daniels & Roscoe's Pollack 1, 36-11-14, dr 3220 ft. Fortuna Oil Co.'s Alexander 1, 32-12-15, rig. Ulrey et al's Deas 1, 23-11-12, lcn; Bishop-Robinson 1, 22-11-12, wosr 2992 ft, oil in hole.

GRANT PARISH—Finn Construction Co.'s Ball 3, 14-17-1w, lcn. Grant Parish Pet. Co.'s Ball 2, 1-7-1w, sd 150 ft; Ball 3, 14-7-1w, dr 920 ft.

JACKSON PARISH—Big Chief Oil Co.'s Rymes 1, 13-14-4w, dr 600 ft.

LA SALLE PARISH—Columbia O. & G. Co.'s Urania 1, 22-10-2e, sd 200 ft. Gulf Ref. Co.'s Urania 1, 22-10-2e, dk; Urania A-1, 22-10-2e, r 2657 ft. Imperial O. & G. Co.'s Urania 1, 10-10-2e, dk. Bill Rowe's Urania 1, 7-10-2e, dk. Urania Pet. Co.'s Urania Lumber 6, 18-10-23, shut in 1511 ft. Zeigen et al's Urania 1, 18-10-2e, set 10-inch 80 ft.

LINCOLN PARISH—Buckner et al's Barrett 1, 13-20-3w, sd 1220 ft. Gulf Ref. Co.'s Dudley 1, 4-18-4w, rig. Ruston Drilling Co.'s Richardson 1, 7-18-2w, lcn.

NATCHITOCHES PARISH—R. C. Roy & Co.'s Durr 1, 27-10-10, dr 1710 ft.

OUACHITA PARISH—Dickson & Frue's Goodwin 1, 24-18-2e, dr 2860 ft. White et al's Jones 1, 6-16-5e, sd 2175 ft.

SABINE PARISH—Emlet et al's Bowman-Hicks Lumber 4, 8-7-12, dr 1675 ft; Bowman-Hicks Lumber 5, 9-8-12, showing oil, to test 2525 ft. Fla-La Oil Co.'s Walker 1, 8-5-12, dr 2400 ft.

UNION PARISH—Jones & Walker's Feazel 1, 6-19-2e, set 6-inch 2518 ft. Roxana Pet. Co.'s Henderson-Bennett 1, 13-22-3w, dr 860 ft.

WEBSTER PARISH—Fortuna Oil Co.'s Branton 1, 16-22-9, set 8-inch 808 ft. Kinnedy et al's Ambrose 1, 19-20-10, rig. McDowell et al's Hortman 1, 15-20-10, sd 2525 ft. Simms Oil Co.'s Burrell 1, 34-23-10, set 6⅝-inch 2610 ft. Standard Oil Co.'s Maynor 1, 34-23-10, dr 2550 ft.

WINN PARISH—Galloway & Arrendale's McCarty 1, 6-12-1w, sd 2300 ft. Hall et al's Nagle 1, 6-10-2w, sd 270 ft.

Kansas Wildcats

BARBER COUNTY—R. D. Brown's No. 1, NWc SW NE 33-30-14w, fsh 3741 ft.

BARTON COUNTY—Cheyenne Oil Co.'s Sooy 1, SWc SW 27-18-12w, sd 3525 ft. Haynes et al's Taul 1, NWc 21-12-12w, sd 2100 ft. Mountain States Oil Co.'s No. 1, SEc NE 22-18-13w, sd 3840 ft. Huffine et al's Smith 1, C NE SW 21-19-12w, casing 1365 ft.

CLARK COUNTY—Watchorn Oil & Gas Co.'s Morrison 1, SEc NE NE 2-22-1w, dr 5180 ft.

CLOUD COUNTY—Livingston et al's Murdock, SEc 6-6-4w, sd 365 ft.

COFFEY COUNTY—Mendenhall & Wrinkler's Elliott 7, C NE SW 14-23-13, dr 600 ft. Manhattan Oil Co.'s Elliott 12, C S L SW 14-23-13, rig.

FINNEY COUNTY—Garden City O. & G. Co.'s Wann 1, SEc SE 36-21-20, fsh 2890 ft.

GEARY COUNTY—Liberty-Texas Oil Co.'s Wright 1, NEc 9-12-6, sd 750 ft; Foster 1, NEc SW 3-12-6, sd 2000 ft.

GOVE COUNTY—Keyes Bros. & Marine's Bowman 1, NWc SW 23-13-26w, lcn.

GRAHAM COUNTY—Keyes Bros. & Marine's Taxton 1, SEc NW 23-8-24w, sd 2000 ft. Gruen & Shriler's Baker 1, NWc SE NW 17-10-24w, rig.

JEFFERSON COUNTY—Northern Counties' Edwards 1, SEc NW NW 13-8-9, sd 3405 ft.

KINGMAN COUNTY—Hale et al's Graber 1, SWc NW 34-27-7w, fsh 2025 ft.

LABETTE COUNTY—Ark Fuel Oil Co.'s Sparks 1, NEc SE SE 14-31-17, sd 1100 ft.

LINCOLN COUNTY—Equity Oil Co.'s Jellison 1, NWc SE 19-13-9w, rig. Scott & Collins' Stone 1, SEc SW NE 19-11-6w, sd 500 ft.

MARION COUNTY—H. S. Garden et al's Waner 1, SWc 9-21-4, dr 9875 ft. Leeward Pet. Co.'s Whaley 1, SEc NE NW 23-19-4, lcn.

NEMAHA COUNTY—Nemaha O. & G. Co.'s Meyers 1, NWc 19-3-11, sd 3250 ft.

OSAGE COUNTY—Rodgers & Bittle's Bertha 1, SEc NW 22-17-18, lcn. Mul-Vit Dev. Co.'s Neil 1, NEc NW SW NE 8-17-17, sd 2735 ft. Baker et al's No. 1, C SE SE 3-10-14, sd 260 ft.

POTTAWATOMIE COUNTY—Crawford et al's Stewart 1, C E L SE SE SE 17-19-12, rig; St. Mary 1, SWc 11-1-12, sd 2290 ft.

RICE COUNTY—Stamey's Barnes 1, SEc NE 21-20-6w, sd 3082 ft. Jasper & Beschka's Walker 1, SWc NE 10-18-6w, sd 2200 ft.

RILEY COUNTY—Pawnee O. & G. Co.'s Marks 1, SEc NE NW 26-10-6, sd 2030 ft.

ROOKS COUNTY—Keyes Pet. Co.'s Sandon 1, NW SW SE 7-8-20w, spudded and sd. Benedum & Tree's Minx 1, SWc 25-10-19w, dr 720 ft.

RUSSELL COUNTY—Pomeroy et al's Cooper 1, SEc 33-12-11w, dr 3210 ft. Skelly Oil Co.'s Oswald 2, SEc NE NE 18-12-15w, lcn. Streeter & Stearn's Oswald 4, SEc NW SW 8-12-15w, rig. Valerius O. & G. Co.'s Sutton 2, NEc SW SW 5-12-15w, spudding. Valerious O. & G. Co.'s Oswald-Valerius 1, SEc 7-12-15w, dr 400 ft. Streeter & Stearn's Ed Oswald 3, SWc 8-12-15w, dr 1060 ft. Midwest Ref. Co.'s Booth 1, SEc NE NW 32-15-15w, rig.

SALINE COUNTY—Thrall et al's No. 1, SEc NE NW 15-15-4w, sd 1610 ft.

SEDGWICK COUNTY—J. H. Liggett's Funk 1, NEc NW 11-26-1, dr 1220 ft. Harwood-Winters & McKenne's Casad 1, SEc NW NE 7-22-4, lcn. Allison & Fitzwilliams Webb 1, C NE 21-29-3w, spudding. L. E. Craig et al's Mean 1, NWc NW 26-28-1w, dr 1310 ft. Curtis et al's Duncan 1, SEc NW NW 19-29-1w, lcn.

SEWARD COUNTY—C. T. Dev. Co.'s Woods 1, NWc NE 34-34-34, sd 700 ft. Seward O. & G. Co.'s Selsey 1, NEc NW 2-33-33, dr 2627 ft.

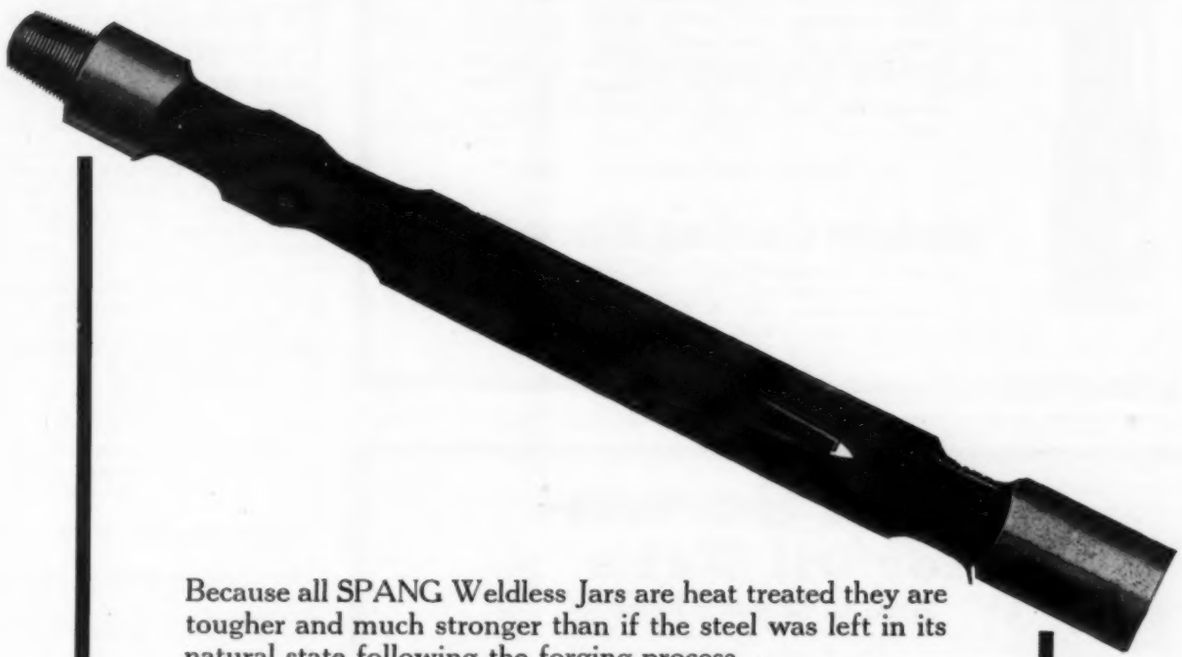
SUMNER COUNTY—Texas Co.'s Nixon 1, SWc SE SE 12-35-1, lcn. Foster et al's Franch 1, NWc 13-31-2, lcn. Phillips Pet. Co.'s Armspiger 1, SWc 17-34-1, fsh 470 ft. Wilcox O. & G. Co.'s Stayton 1, NWc SW 5-32-2w, spudding. Champlin Ref. Co.'s Stevenson 1, SEc SW SE 9-31-1w, rig.

TREGO COUNTY—Keyes Pet. Co.'s Walsh 1, NWc SE 5-11-25w, sd 1450 ft; Walsh 2, SWc NE SW 5-11-25w, sd 1550 ft; Davis 1, NEc SW 16-11-24w, fsh 3030 ft.

WABAUNSEE COUNTY—Williams et al's No. 1, NEc SW 9-5-5, sd 3600 ft.

WILSON COUNTY—Rhodes & French's Brown 1, NWc SW NW 2-27-14, dr 980 ft.

Spang
Weldless Drilling Jar



Because all SPANG Weldless Jars are heat treated they are tougher and much stronger than if the steel was left in its natural state following the forging process.

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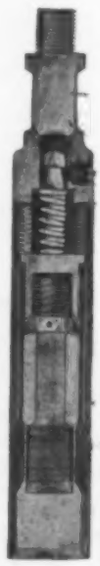

LEONARD Sucker Rod Sockets

"Bull Dog Type"

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Secures its Slip hold after the piece fished for enters the barrel of the Socket by TRIP ACTION and not by friction, jar down or screw on operation.

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Also made up as a Special Rod Socket with 1⅝-inch outside diameter carrying Slip to catch 9/16 inch to ¾ inch Rods for use in Tubing which will not permit a larger sized tool's entry. Can be used to fish out broken valve stems in Standard Working Barrels.

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AJAX Gas Generators—Dikart Protector Guides—Kliewer Steam Snuffers

Arkansas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Columbia County—		
Magnolia Dev. Co.'s Lindsey 1, 30-18-19	*	3112
La Fayette County—		
Humble Oil & Ref. Co.'s Bodcau-Kitchen 1, 24-15-23	*	1300
Ouachita County—		
Gossett et al's Curry 1, 33-14-19...	*	2217

DRILLING REPORT

BRADLEY COUNTY—Rhodes et al's McQuistian 1, 36-12-9, sd 225 ft.

CLARK COUNTY—Southern Drilling Co.'s Burrows 1, 35-10-20, sd 714 ft.

COLUMBIA COUNTY—Arkansas Fuel Oil Co.'s Hardy 2, 1-19-22, coring 680 ft. Hargis et al's Souter 1, 24-17-22, sd 35 ft. Heath Trust's Williams 1, 1-19-21, testing 2650 ft. Johnson et al's Sailles 1, 18-17-22, sd 915 ft. Kemp et al's Emerson 1, 7-19-19, sd 2260 ft. Ky-Ark Pet. Co.'s Doss 1, 29-19-20, sd 650 ft. Meier et al's Gantt 1, 15-17-22, dk. Phillips et al's Davis 1, 14-18-21, sd 2730 ft. Transcontinental Oil Co.'s McClurkin 1, 6-16-19, dr 1650 ft. Wingfield & Mitchell's Bodcau Lumber 1, 4-20-21, dr 1830 ft.

DALLAS COUNTY—Durr et al's Riggs-Matlock 1, 33-8-15, sd 2400 ft.

DREW COUNTY—Graves et al's Karnes 1, 20-14-6, sd 2472 ft. Rhodes et al's Harris 2, 5-13-8, sd 3015 ft. Spooner et al's Meyer 1, 4-16-17, sd 50 ft.

GRANT COUNTY—Haley & Evans' Pike 1, 8-6-11, sd 50 ft.

HEMPSTEAD COUNTY—Grassy Lake Oil Assn.'s Gun Club 1, 27-12-27, sd 2100 ft. Hempstead Oil Co.'s Nicholls 1, 17-11-25, sd 1980 ft. Wooten et al's Walker 1, 22-11-24, dr 1075 ft.

LA FAYETTE COUNTY—Humble O. & R. Co.'s Bodcau 1, 21-15-22, rig. Ken-Saw Pet. Co.'s Red River Valley 2, 3-20-24, fsh 2040 ft.

LITTLE RIVER COUNTY—Gaines et al's Thomas 1, 15-13-29, dr 3900 ft. Grote et al's Allen 1, 2-13-29, to set 6-inch 3410 ft. Johnson et al's Hawkins 1, 10-11-31, sd 1350 ft.

MILLER COUNTY—Coplen et al's Johnson 1, 36-15-27, sd 400 ft. Gillespie et al's Fee 1, 2-15-26, sd 150 ft. Doc Nigh's Thomas 1, 12-20-28, coring 2945 ft.

NEVADA COUNTY — McInturf et al's Eades 1, 11-12-23, dr 50 ft. Zingg et al's Groves 1, 22-10-23, sd 1230 ft.

OUACHITA COUNTY—El Dorado Union Oil Co.'s Eagle Lumber 1, 17-12-15, set 10-inch 72 ft. Langston et al's Alley 1, 25-14-19, dr 1475 ft. Lion Oil & Ref. Co.'s (Schwartz-Cox) Burton 2, 30-15-17, r 2300 ft.

UNION COUNTY—Berry et al's Union S. M. 1, 14-19-11, sd 1770 ft. Bradley & Carzort's Pate 1, 16-17-17, dr 2365 ft. Coates et al's Springer 1, 36-17-16, set 8-inch 2542 ft. Jones et al's Murphy 1, 36-19-14, dr 2500 ft. Liberty Oil Co.'s Davis 1, 31-16-14, dr 2500 ft. Magnolia Pet. Co.'s Chandler 1, 4-19-14, dr 2125 ft. Mathews et al's Teele 1, 11-19-12, to set casing 2662 ft. Ward et al's Goodwin 1, 16-16-14, sw 2483 ft.

Oklahoma Wildcats

ALFALFA COUNTY—McGinnis & Ward's Watts 1, C NE SW 21-27-10w, sd 3504 ft. Armstrong, Henley & Piffles' Turnbull 1, C NW SE NW 25-24-11, sd 3000 ft.

ATOKA COUNTY — McPhearson et al's Wild 1, SWc NW 7-2-9, sd 4323 ft. Henson et al's Dabney 1, C SE NW 17-4-11, sd 3005 ft. J. P. Torrance et al's Fee 1, SWc NE 1-2-9, sd 2685 ft. Wapanuka Dev. Co.'s Underwood 1, C W L SE SE 28-2-9, sd 1343 ft.

BLAINE COUNTY—Meyers et al's Chron-

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ister 1, SEc NW NW 7-18-15w, sd 965 ft. Okomo Oil Co.'s Ekleman 1, SEc 21-13-10w, sd 2610 ft.

BRYAN COUNTY — Alexander's Hampton 1, SEc NE 26-7-11, sd 1400 ft.

CANADIAN COUNTY — Thos. Revelle's Dawson 1, SEc 34-13-9w, sd 2955 ft. Carroll et al's Setter 1, SEc 2-13-8w, sd 100 ft. Wilcox et al's Sanders 1, C NE NE NE 29-11-7w, sd 40 ft.

CLEVELAND COUNTY — Garr Oil Co.'s Holland 1, NEc SE 31-10-4, sd 2620 ft.

GRANT COUNTY—Embry et al's Edwards 1, C SE SE NW 20-26-4, sd 1000 ft. Midwest & Gulf's Moon 1, NEc NW 8-27-8w, sd 2490 ft. Frank Traver et al's Fuss 1, SWc NW NW 3-27-4w, sd 1250 ft.

HUGHES COUNTY — Mather & Skelly's McClain 1, C SW SW 4-5-11, sd 3206 ft. Walton, Snyder & Marshall's Kiles 1, C E L NE NW 8-6-10, r 3501 ft.

JEFFERSON COUNTY — Barker et al's Major 1, C SE SW 34-5-6w, spd and sd. Godley Oil Co.'s Woodworth 1, C NE NW 36-5-4w, sd 1100 ft. W. E. Norton's Unknown 1, SEc SE 7-5-9w, tools moved out. Pauline Oil & Ref. Co.'s Garver 1, C NE SW 17-5-8w, lcn.

KAY COUNTY — Day Oil Co.'s Vandatta 1, SWc NW 8-26-2w, dr 4776 ft. Hickman & Barnhart's Sheets 1, C NW SW SE 25-29-2w, sd 835 ft.

KIOWA COUNTY—Connor et al's No. 2, NEc NW NW 34-7-16w, sd 1100 ft. Alcorn Oil Co.'s No. 1, NEc SE SE SW 13-7-16w, dr 1900 ft.

LINCOLN COUNTY—P. & R. Corp.'s Hanzig 1, SWc NW NW 14-13-6, fsh 2960 ft. Douglas Oil Co.'s Ewing 1, NEc 7-13-3, sd 2965 ft. J. C. Cook's Richardson 1, SWc NW SW 8-12-5, dr 3800 ft. Eugene Coste & Co.'s Ross-Fortune 1, SEc NW 26-12-2, fsh 3650 ft. Wilcox O. & G. Co.'s Smith 1, SEc NW NE 12-12-3, r 3640 ft. F. O. Howarth's Harris 1, SEc NE 22-15-2, dr 3800 ft. Santrock Drilling Co.'s No. 1, SEc NW 17-15-3, sd 920 ft. Ruby et al's Cull 1, NEc NW 36-15-4, co 3530 ft.

LOGAN COUNTY—Skelly Oil Co.'s Newman 1, NWc NW 32-19-3w, sd 2500 ft. Franklin Oil Assn.'s Moore 1, NWc SE SE 35-17-4w, dr 2310 ft. McMunn & Nixon's Field 1, SWc NE SE 35-7-4w, rig. Haley & Pioneer Pet. Co.'s Quair 1, SWc SE 33-18-3w, spd and sd. Blackford O. & G. Co.'s Lair 1, C S L N½ SE 28-16-1w, fsh 750 ft. Magnolia Pet. Co.'s Pritchard 1, NWc 23-15-1e, sd 3165 ft.

LOVE COUNTY — Driller Syndicate Oil Co.'s Wilson 1, NWc SE 11-7-2, sd 2830 ft. Simms Oil Co.'s Starritt 1, SEc NE SE NE 29-6-3, sd 3100 ft. Magnolia Pet. Co.'s Crowe 1, C NE NE SE 13-8-2, dr 900 ft. Smyer & Stein's Gray 1, C SE SE 12-9-1, rig.

MAJOR COUNTY—Texas Prod. Oil Co.'s Basin 1, SWc 6-22-14w, sd 1300 ft. Bradstreet Oil Co.'s Ratcliffe 1, C SW 9-22-9w, dr 4051 ft. Frantz & Slick's Gray 1, C NW 36-21-11w, sd 1000 ft.

PONTOTOC COUNTY—Highland Oil Co.'s Hatcher 1, C NW SW 4-4-5, dr 2250 ft. Galloway et al's Hays 1, NEc SE NW SW 13-3-6, sd 1160 ft. Craig et al's Starritt 1, NWc NE 5-4-5, sd 600 ft. American O. & R. Co.'s McDaniels 1, SEc NE SW 3-4-6, fsh 2700 ft. Lloyd & Smith's Lloyd 2, C NE SW NE 6-3-7, dr 720 ft.

POTTAWATOMIE COUNTY —Ossie Oil Co.'s Howell 1, SWc NE 17-10-2, sd 3370 ft. Davis Detrick's McGathey 1, SEc 10-6-2, sd 3850 ft. H. C. Guinnup et al's Floyd 1, SWc SE 12-11-3, sd 3670 ft. North American Oil Co.'s Madgett 1, NWc 25-10-4, repair rig 460 ft. Maud Oil Prod. Co.'s Yinson 1, NEc SW 18-7-4, sd 2936 ft. McMann Oil Co.'s Neghan 1, SWc NW 19-7-4, sd 100 ft. Halmond Osmond et al's Fiddler 1, SEc NW 4-5-5, sd 545 ft. Central Nation Oil Co.'s Toney 1, C SW SW SW 28-10-2, rig.

ROGERS MILLS COUNTY — Twin Mills Oil Co.'s McClure 1, NWc 15-16-26w, sd 4310 ft. Trio Oil Co.'s No. 1, SEc NW SW 3-13-26w, dr 3160 ft.

SEMINOLE COUNTY — Maxwell et al's Charty 1, C NE NW 33-6-6, dr 2450 ft. Link Oil Co.'s Carolina 1, C SE NW 14-6-7, sd 2840 ft. Wm. McDougal's Dindy 1, C SE SE 30-6-7, cas trouble 3427 ft. R. F. Garland's Farlin 1, C NE NW 6-6-18w, fsh 1390 ft. Central National Oil Co.'s Harjo 1, C NE SW NE 14-11-7, dr 2150 ft. Transcontinental Oil Co.'s Davis 1, NE SE 22-7-7, dr 3250 ft. Bryan Bros.'s Walker 1, C SE SE SE 4-7-6, spd.

WOODS COUNTY—Victor Oil Co.'s Van Buskirk 1, SWc SE 10-25-15w, sd 960 ft.

WASHITA COUNTY—Meridan Pet. Co.'s 1, SE SE SE 14-9-14w, lcn.

PIPE FOR SALE

10 miles 10" - 42 lb. wrot iron gas line
15 miles 8" - 29 lb. oil line
10 miles 6" - gas line
25 miles 3" - gas line
6 miles 5⅝" casing gas line

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PATENTS

Patents Obtained, Trade Marks, Patent Causes

JESSE R. STONE

Formerly Assistant Examiner United States Patent Office
Andrews, Streetman, Logan and Mobley
12th Floor Union N. Bk., Houston, Texas

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PATENTS OBTAINED FOR INVENTORS

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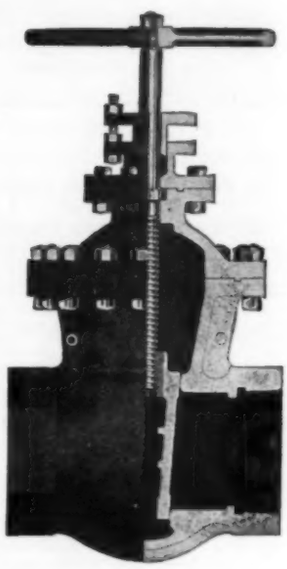
And Use KEROTEST Valves and Fittings.



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KEROTEST Valves are of the wedge-gate type which insures full opening and positive closing as well as perfect freedom for passage of the swab.

Every KEROTEST Valve is kerosene tested under high-pressure, before shipment, disinterested inspectors carefully scrutinize every phase of manufacture.

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Light Duty Clutch Works On Any Countershaft

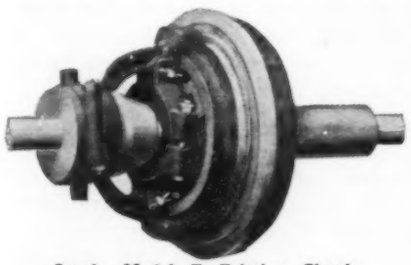
To meet the demand for a medium and light duty clutch which can be conveniently applied to practically any machine or countershaft which requires a friction clutch, the W. A. Jones Foundry and Machine Company, Chicago, Illinois, is marketing the Lemly Model "F" Friction Clutch.

The clutch has few parts, all of which are in plain view and are readily accessible. No special tools are required to adjust or disassemble completely. The principle of operation is simple and is clearly evident after only a few minutes inspection.

Uniform pressure on the friction surfaces is assured at all times. The two toggles are adjusted at the same time by means of one split ring nut.

Free floating friction rings of fibre or asbestos brake-lining material is used. Model "F" is furnished as sleeve clutches, cut-off couplings, or bolted to the arms of pulleys, sprockets, gears, sheaves, etc.

Descriptive literature will be mailed



Lemly Model F Friction Clutch

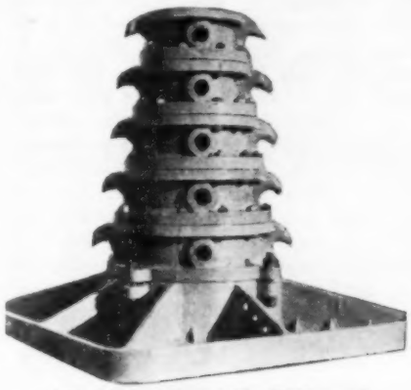
upon request to the W. A. Jones Foundry & Machine Company, 4401 W. Roosevelt Road, Chicago, Ill.

Device Provides Foundation For Long Strings of Pipe

The Redick Pipe Suspending Device and Blow-Out Preventor is an invention recently patented by Frank Redick, Parkerton, Wyoming, and now being used in Wyoming fields.

This device was patented with the idea in mind of providing a suitable foundation for suspending long strings of pipe. It has a base 54 inches square which can either be set on substantial timbers or on a concrete foundation at the bottom of the cellar. As various strings of casing are run in the well, a nipple of the proper length is cut, depending upon the amount of tension required for each string of pipe, and the bushing or head is screwed on the nipple, using a coupling threaded on the outside. This coupling is screwed into the head or bushing, which makes a simple job of finishing up the top of the string.

Two rows of five-eighths inch hy-



Redick Pipe Suspending Device and Blow-Out Preventer

draulic packing are provided with suitable recesses cut in the bottom flange of each head, to prevent any seepage of water into the well, and also provide a shut-off for gas between any two strings.

In fields where a high gas pressure is encountered, bolts are put through the flanges, bolting the heads together.

The entire height of this device from the bottom of the base to the top of the six and one-fourth inch or six and five-eighths inch bushing is approximately 60 inches.

Suitable outlets are provided, either for taking off gas between the various strings of pipe, or they can be used for pumping in mud or cement should the occasion arise.

The heads or bushings are provided with ears over which common elevator links will slip nicely, thus making it convenient to lift the pipe, if it is necessary to do so, after the head or bushing is screwed on.

Further information can be obtained from Frank Redick, Parkerton, Wyoming.

Long Stroke Pumper Uses Common Rods and Barrel

A long-stroke pumping unit which makes use of the same working barrel, rods, etc., as used with ordinary pumping equipment, but gives a much longer stroke, has been invented by E. W. Patterson of Los Angeles, and is now being manufactured by the Pacific Oil Tool Company, 1928 E. 7th St., Los Angeles, California. In the Los Angeles Basin 22 of these outfits have been installed and are giving splendid service at this time, according to the manufacturers.

How it Works

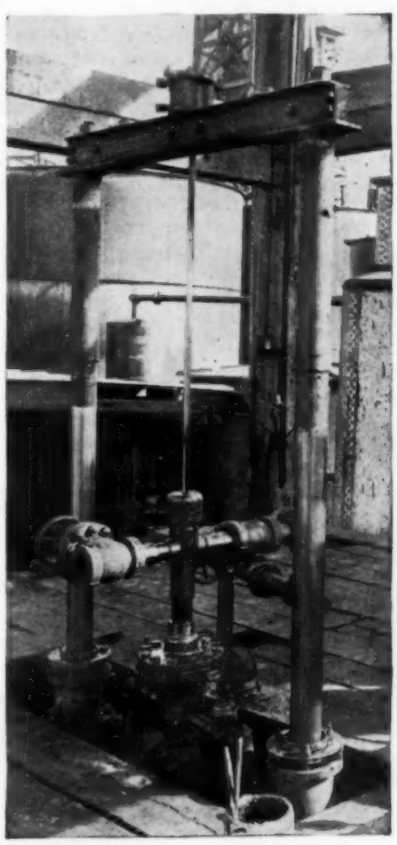
The hydraulic pumping unit consists of a cylinder in which there is a double-acting piston that operates two separate volumes of water. One volume is operated by the forward stroke of the piston, raises two hydraulic jacks set on opposite sides of the well hole, four feet apart. The other volume, impelled by the backward stroke of the piston and the weight of the sucker rods, is forced into a counterbalancing tank.

The plungers in the two hydraulic jacks are connected across the hole by a removable cross head, to which the polish rod is attached. When water is forced into the two jacks, the plungers and the polish rod are raised. In the counterbalancing tank, which contains a small quantity of water, air pressure of from 150 to 300 pounds,—depending on the depth of the well and the weight of the sucker rods and fluid to be pumped, is maintained artificially.

The unit operates on a constant torque; on the forward stroke it lifts the sucker rods, and on the backward stroke it builds up a counterbalance, which in turn is used on the next forward stroke. Operation is said to be noiseless and free from vibration.

Easy to Dismantle

The packing boxes on the upper ends of the two jacks are set level with the derrick floor, so that, by removing the connecting cross head and by lowering the plunger into their cylinders, workmen can clear the rig of equipment and make it ready within five minutes



New Long Stroke Pump being made by The Pacific Oil Tool Company

NEW EQUIPMENT Cont'd.

for any other work. The hydraulic jacks are actuated by the double-acting force pump, which receives its driving power directly from the band wheel chain sprocket at a speed of the latter of 30 r.p.m. If desirable, the pump can be operated by electric motor, by steam engine, or by gas engine, without either belts or pulleys having to be changed.

Mr. Patterson said, "Let us consider for comparison, a well pumping on the beam at 25 strokes a minute, with the crank pin in the third hole. We should have a stroke of 40 inches, or a total polish rod uplift of 83 feet, 4 inches per minute. As this would be a fast pumping stroke, the probability is that, on a deep well, rod trouble would develop, because each time the rod picks up the fluid it stretches.

"If this stretch is ten inches, or one-fourth the total stroke, the total pump plunger travel is 62 feet, 6 inches per minute, with the stretch and stresses taken up by the rods at a frequency of 25 times per minute; while the ball and seat valves have opened and closed an equal number of times.

8½ Foot Stroke

"A long-stroke pumping device operating at the same polish rod travel per minute makes about 8½ ten-foot strokes per minute. Assuming the rod stretch to be the same as on the beam, we should lose 85 inches a minute, which would leave us with a total pump plunger travel of 78 feet per minute,—a gain in pump displacement means more production with less trouble, as the rods have taken up the stresses only 8½ times in comparison with 25 times, and the ball and seat valves also have opened and closed eight times as against 25 by the short stroke.

"The hydraulic power is even more efficient, for it can operate at 14 ten-foot strokes per minute, which means 140 feet of uplift per minute. This speed is far greater than any speed possible with the beam. In addition, the hydraulic pumping unit has the advantage of operating at a band wheel speed of 30 r.p.m."

Flexible Swab Prevents Any Leakage of Fluid

A flexible swab, made in all sizes ordinarily used in the oil fields, is being manufactured by Allen & Courtney Oil Tool Company, Compton, California. The swab has four joints, a joint at each rubber, making it flexible enough to travel freely, up and down, in crooked or dented tubing. It is so constructed that an even pressure is placed on all four rubbers. This feature, it is claimed, prevents any leakage of the fluid because all the rubbers expand equally and assume equal wear. Slots are placed above each individual rubber, thus permitting the fluid to pass into the internal chamber and act as a pressure to the rubber. Eventually this fluid is worked to the top of the swab.

Further information can be secured from the company.

MacLean Is Addition To Bridgeport Staff

Wichita, Kansas, April 15.—In keeping with its policy of strengthening its Wichita organization, The Bridgeport Machine Company has added to its forces, the services of George W. MacLean, Jr., who will have general charge of rope and wire line sales.

For the past 10 years Mr. MacLean has been handling oil field sales for the Wall Rope Works, and has for six years been stationed at Bartlesville, Oklahoma.

In his new connection, Mr. MacLean will sell American Wire Rope, of which the Bridgeport Machine Company is now one of the four national distributors, in addition to having charge of the same line and approximately the same field for the sale of Wall Rope.

Mr. MacLean is a native of New York State, and was a captain of the Officers Reserve Corps, in the Aviation Section during the war.

GEORGE W. MacLEON, Jr.
who recently joined the Bridgeport staff

Erie City Iron Works Makes Changes in Official Staff

Erie, Pennsylvania, April 14.—At a recent election of the board of directors of the Erie City Iron Works, in this city, several changes in the personnel were made:

Hays H. Clemens, treasurer of the Hays Manufacturing Company, and a director in the Kalbfleisch Corporation and the National Manufacturing Association, was elected president, succeeding Edward C. Moore, who, however, remains with the company as vice president and treasurer. L. V. Reese, general manager of the company, was elected secretary and will hold that office in addition to his other duties.

Mr. Reese, prior to his becoming affiliated with the company, was chief engineer of the U. S. Metals Refining Company, in complete charge of engineering, power, purchasing, stores, machine boiler, foundry, and construction departments. He has been reared in the building, engineering and industrial world and is well known in the metallurgical engineering, and power equipment fields.

A. R. Horr, vice president of the Cleveland Trust Company, and Ely Griswold, vice president of the Griswold Manufacturing Company, Erie, complete the board of directors.

Texas City Makes Record In March Oil Shipments

Houston, Texas, April 6.—Texas City handled the largest volume of oil during March that it has handled in any one month of the port's existence, according to statistics furnished The OIL WEEKLY by the traffic department of the Texas City Terminal Railway Company today.

A total of 3,121,708 barrels of oil were handled by the port in March. The previous high record was in September, 1925, when the port handled 2,742,696 barrels.

Of the volume handled in March, 2,140,946 barrels were received by the Humble Oil and Refining Company's plant at Baytown, 381,511 barrels by the Marland Refining Company, 366,429 barrels by the Swiftsure Petroleum Company, 217,748 barrels by the Vacuum Oil Company and 15,073 barrels by the Pierce Petroleum Corporation.

The Marland Refining Company was the chief exporter of the month with an accredited shipment of 186,766 barrels out of a total export of 239,821 barrels.

Krause Is Made V. P. of Lee C. Moore Company

Pittsburgh, Pa., April 13.—Lee C. Moore and Company, leading manufacturers of tubular steel derricks, announce the election of Charles B. Krause to the office of vice-president of the company.

In his new position, Mr. Krause will be in charge of the company's interests in the Mid-Continent and Rocky Mountain districts. His headquarters will remain in Tulsa, where the company operates a manufacturing plant for the service of customers in this territory.

The promotion of Mr. Krause comes as a fitting recognition of his ability and loyal service, he having been connected with the Moore Company for many years. Since 1921 he has been their Western representative, in charge of the Tulsa office.

Texas Safety Belt to Be Sold Through Supply Stores

Straus-Bodenheimer Company, manufacturers of The Texas Safety Belt, announce that due to the popularity of their belt, this prouct can now be obtained through supply dealers throughout the oil country.

The belt has been advertised in The OIL WEEKLY for only a short time, but a considerable demand has been created, due to the fact that the belt has no buckles and can be taken off very quickly.

Gould Burner Co. Opens New Office in Los Angeles

Los Angeles, Calif., April 15.—A California office of the Gould Burner Company, has recently been opened in the Stock Exchange Building, Los Angeles, with S. Reid Holland in charge.

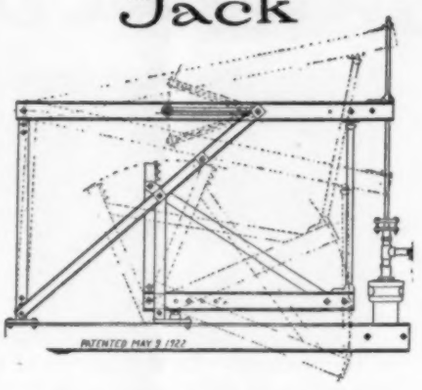
This office has been opened to take care of the increasing business of the Gould Burner Company in California. Many of the larger companies are using the Gould "Inferno" oil burner with excellent results, and the burner is increasing in popularity in all fields, according to the manufacturers.

Fetty Opens New Branch Office For Tulsa Trade

Tulsa, Oklahoma, April 13.—The C. C. Fetty & Company, El Dorado, Kansas, manufacturers of long stroke pumping attachments, announce the opening of a new sales office in the Mid-Continent field. The new office will be located with the B. and A. Specialty Company, at 404 W. First Street, Tulsa, Oklahoma. R. N. Atmore will be in charge of the Tulsa branch.

A Straight Up-and-Down Pumping Stroke

The Jensen Straight Lift Jack



The Jensen Jack

gives this and at the same time lessens wear on the polish rod and stuffing box.

Increased production naturally results while operating costs are reduced.

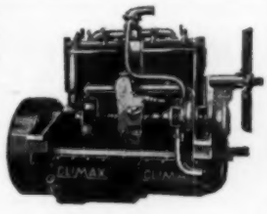
Jack sold complete or only the frame, which can be installed on any well giving a straight-lift jack.

The Straight Lift makes a four-foot stroke practical. Made in No. 2 and No. 3 sizes.

Jensen Bros. Mfg. Co.
Nowata, Oklahoma

DRIVE Your Rotaries, Mud Hogs, Powers, Short Pipeline Pumps, Lighting Generators, Electric Drilling and Pumping Motors, also Cable Drilling Machines, with

CLIMAX *Trade Mark Reg. U. S. Pat. Off.*



"Trustworthy" Engines
—for gasoline power. 15% less with natural gas.
Lightest Heavy-Duty Engines made—Price is Right.
CLIMAX ENGINEERING COMPANY
51 W. 18th Ave., Clinton, Iowa.
Mid-Continent Office: Wells Hotel, Tulsa, Okla.

Built in
50-55 H.P. Size
70-80 H.P. Size
105-120 H.P. Size

Why Buy New When You Can Get Second Hand That Is Just As Good

10,000 ft.	5-3/16"	17 lb. used casing
3,000 ft.	5-3/16"	20 lb. used casing
6,000 ft.	6-5/8"	24 lb. used casing
6,000 ft.	8-1/4"	32 lb. used casing
6,000 ft.	10"	40 lb. used casing
2,000 ft.	12½"	50 lb. used casing
1,000 ft.	15½"	70 lb. used casing
250 ft.	20"	90 lb. used casing
20,000 ft.	3"	used line pipe
20,000 ft.	4"	used line pipe
15,000 ft.	6"	used line pipe
30,000 ft.	8"	used line pipe

We own and can make immediate shipment of this pipe from our Texas yards.

Keystone Pipe & Supply Company

Eastern Headquarters: Butler, Penna.
Western Headquarters: Fort Worth, Texas, 315 W. T. Waggoner Bldg.
BRANCH STORES:
Wichita Falls, Holliday, Vernon, Breckenridge, Texas

LETTERS OF Paul Peebles P.S.G.

mi deer cleopatry

well cleo hunny I hav cum to chicargo just like I told yu I was goin 2 do whitch is more further proof hunny that I alwaze do whatever I tell yu I am goin 2 do & do not never tell yu no lies.

well I gess yu will want me to tell yu about all of mi trip up hear whitch aint mutch of a novelty 2 me on account I hav bin 2 chicargo before & hav also rid on the trane before, even ridin in them cars with beds in them like I done this time, onli I set up neerly all the nite talkin 2 sum birds what I noed what was in the oil bizness kinder on account of them workin for the Gulph company only they was not nuthin but offis men whitch does not meen verry mutch escept all them fellers does is keep track of the munny whitch is 1 of the reel reasons why it is anny oil bizness. I do not need no buntch of offis men 2 keep track of mi munny tho hunny because I am smart enuff 2 attend 2 all of that miself.

eww I cum threw st luis where I hav also bin bfore & it was kinder punk there on account I did not hav long enuff 2 stay 2 git in2 ennything. yu no hunny st. luis is kinder slow on account they still hav a man on a horse whitch they call st. luis, but it is alrite when yu giv it time as I hav ritten 2 yu before about it, only it gits faster after nite & I was there in the daylights before they lit her up.

well I gotten 2 chicargo monday nite about time 2 eat & was reckermend bi a feller 2 stop at a hotel whitch is about half way 2 milwaukee. it is called the sheridan somethin or other & is on sheridan rode. & hunny after I had pade for 1 of them yeller jitneys haulin me up there I can understand why sheridan's ride is so big in the histry books.

well ennyway I went up there & what I done after that is a personel matter.

well I gess yu R still wonderin why I cum up hear. well I wood not tell nobody elst this hunny, but the reel reesen is that jimmie graver was givin a party & had rit 2 me that it wood be a frost if I did not cum. well jim is a good scout & I wanted 2 help him out with his party & besides that I hav bin 2 his partys before & noed it was werth the trip.

hunny yu aint never bin 2 1 of these here kinds of partys whitch is diffrent from enny yu hav ever seen, because we did not play no games or nuthin like that. I gess it was a bout a 1000 there besides me & first off we was set down 2 a dutch luntch whitch Jimmie had done the best he cood on, whitch meens that it was about 95% efficient. Now mabe yu will not understand them figgers whitch meens that if the beer had not a bin less than ½ of 1 % efficient the luntch wood a bin 100%. but like I sed it was not jims fault & besides enny meetin of oil jobbers is bound 2 hav sum lubercation about it & whilst I did not see nuthin goin round & cant say, it is a open suspistion that it was sumthin under sum of the tables. ennyway everybody was in a mite fine ummer by the time the show got orgernized.

well art butler & joe winslow whitch is 2 of the fellers whitch was helpin jim was not playin no favorites but all the same they fixt it so I wood hav a table rite up close 2 the stage. & hnny yu wood a bin ashamed of sum of the wimmins whitch they had there 2 danse but all the same it was a good show & I shore was glad I come

I will not tell yu all of the detales but I will tell yu 1 whitch was a good joke on col. hilp & neerly gotten 2 be a good joke on me on account of the way it happen. well it was 1 girl whitch was dansin whitch looked pretty good all escept her fase but I am self conshus enuff that I will not hold no fase agenst a woman if that is all that is the matter with her looks. so this here one cum down in the tables rite where me & the col. was sittin & tried 2 git funny with me but I shoved her off on account of yu hunny & me not havin nuthin 2 do with no wimmins. so she started after the col. & he thort he wood giv the boys sum fun so he was not as vigerus as me about gittin red of her. well it shore was a laff hunny when evryboddy found out that it was a man dressed up & not no woman all the time. she did not fool me none. well ennyway we all had a pretty good time & the party was late brakin up but I find mi way 2 the plase where I am puttin up alrite bi gittin anuther 1 of them yeller jitneys. hunny it is about a milyun of them here & all goin like hell bent for election.

now sinct I hav told yu about the party, yu can tell enny boddy whitch wants 2 no that I cum up here 2 the jobbers convention 2 here what nicklas has 2 say. he is kinder tamed down a little about what ort 2 be did 2 the standard oil since he has bin sittin on the bensh in the big leeg a little hisself sinct the api meetin at ft. werth last time. sinct then he aint bin tryin 2 say how mutch crude oil ort 2 cost & how menny wells ort 2 be drilled.

hunny I do not no when I will cum on back 2 huston on account I aint made up mi mine where I will go 2 from hear but I aint bin up this way in a long time now & mabe I had better look around a little & see what I can find out but I will be back sum times & when I am I will cum down 2 sea yu

yore lovin paul.

6
Hotel Lassen
WICHITA
The Hotel Lassen policy means economy for the traveling public. Popular prices accommodate all, yet equipment and service are the best. Right in the business, theater and shopping district.
350 FIRE PROOF ROOMS
From $2.00 per Day
Rate Schedule Which Never Changes
1 per. 2 per.
42 Rooms, Lavatory..... $2.00—$3.00
82 Rooms, Private Bath.... 2.50— 4.00
53 Rooms, Private Bath.... 3.00— 4.50
30 Rooms, Private Bath.... 3.50— 5.00
35 Rooms, Private Bath.... 4.00— 5.50
Large parlor rooms—twin beds for two persons—at prices slightly above this schedule.
Nearly Everybody Stops at the Lassen
HOTEL LASSEN
WICHITA KANSAS

BILLS PENDING

ARKANSAS

Senate Bill No. 137, introduced by Milum, is a bill to abolish the office of state oil inspector, to repeal Sec. 5900 of Crawford and Moses' digest and section one of act 277 of the acts of 1923, and to require and empower the commissioner of mines, manufactures and agriculture to perform certain additional duties, and for other purposes.

Senate Bill No. 558, provides that section 1 of said act No. 239, of the acts approved March 5, 1921, be and the same is hereby amended so as to read as follows: "That all pipe line companies operating in this state, and all companies operating steam, motor

driven or electric railroads in this state, which shall hereafter transport oil and gas, or either oil or gas, for hire, are hereby given the right of eminent domain, and are declared to be common carriers except those lines and roads operated for conveying natural gas for public utility service. All gas lines or companies operating within the state who render a domestic or general service to the public in furnishing and sale of gas are hereby required to buy or furnish from the lowest and most advantageous market. Failure to do so shall deprive them of the difference in price between such market and the one of which purchases are made."

CONNECTICUT

Senate Bill No. 543, provides that the governor is authorized to appoint a commission, consisting of three members of the general assembly, for the purpose of investigating the cost of production and marketing of gasoline within the state. Said commission is authorized to subpoena and examine witnesses, etc., and to employ attorneys, agents, investigators, etc.

MAINE

Senate Bill No. 486, introduced March 11, 1925, by Foster, is an act "Granting to the state Highway Commission control of pipe and pole lines, conduits, dams and other similar constructions, and flowage on the rights of way of public highways." Referred to the committee on judiciary.

MASSACHUSETTS

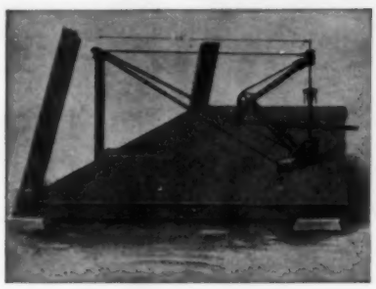
House Bill No. 429, introduced by Donovan, after various stipulations, resolves "That the general court of Massachusetts respectfully requests the enactment of legislation by congress providing for the public ownership and operation of oil wells and oil bearing lands. That the senators and representatives from Massachusetts in the congress of the United States are hereby earnestly requested to use every endeavor to secure the speedy passage of such legislation, and that copies of these resolutions be sent by the secretary of the commonwealth to them and also to the clerk of each branch of congress."

PENNSYLVANIA

House Bill No. 531, introduced February 3, 1925, by Wheeler, is bill "To amend act or provide revenue by tax, providing collection of taxes upon gross receipts." Referred to the committee on Ways and Means.

TENNESSEE

House Bill No. 726, introduced by Haynes, is an act "In relation to canals, flumes, conduits, pipe lines, reservoirs, ponds, dams, transmission lines and other works, the rights of way through any and all lands between their reservoirs, pond, for lines or poles."



LIGHTNING JACKS

The Jack that takes the place of the Beam Pump

ADVANTAGES:

Simplicity
Wide Range of Adjustment
Special Oiling Features
Lateral Adjustment
Simple to Install
More Oil Pumped

Longest stroke without use of Multiplier

Oil Field Supply Department

KANSAS CITY HAY PRESS CO., Kansas City, Mo.

Attention Field Managers and Purchasing Departments

Reduce your tubing jobs by using Ewing Patented Hydraulic Standing Valves, made with regular and oversize balls and seats.

Stocked by all Leading Supply Companies and Made ONLY by

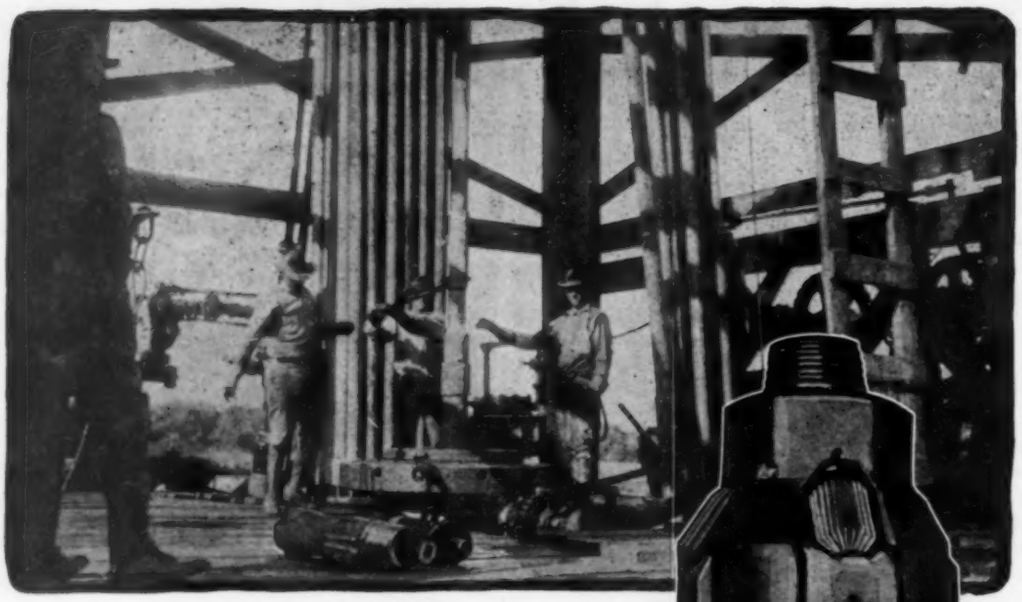
Sour Lake Machine & Supply Company
Sour Lake, Texas

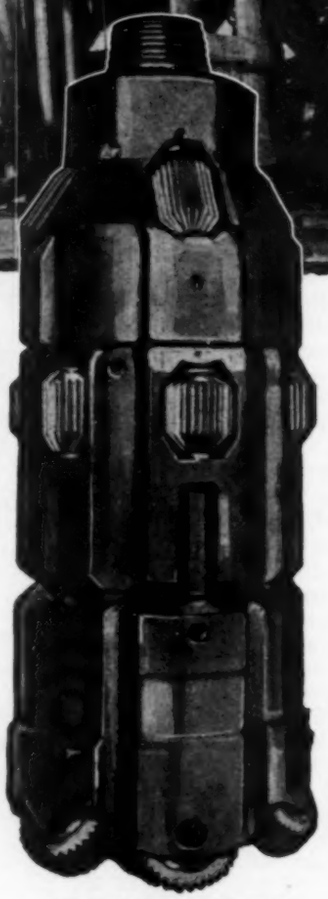
Built for Service

WHETHER it's a small pipe fitting or a mammoth tank, it has dependable service and long life built into it—if it's a "United". The design, materials and construction are indicative of economy and dependability.

Send us your inquiries for anything in Refining Equipment.

UNITED IRON WORKS, Inc.
Kansas City
Tulsa Dallas





Largest Roller Bit in the World. Bores 24-inch hole. Made of Agathon Alloy Steel by Reed Roller Bit Co., Houston, Texas

Agathon Alloy Steel Used In World's Largest Bit

The fact that an Agathon Alloy Steel was used in making the world's largest rotary bit has its significance. In many of America's famous oil fields you will find the most severe drilling being accomplished with Agathon Alloy Steel bits. Ask for the assistance of our metallurgists in selecting the proper alloy steel for your bits, joints, jars, etc. Get our booklet—"Agathon Alloy Steels."

THE CENTRAL STEEL COMPANY, Massillon, Ohio

Swetland Bldg., Cleveland Book Bldg., Detroit Peoples Gas Bldg., Chicago
Aeolian Bldg., New York University Block, Syracuse
Widener Bldg., Philadelphia

AGATHON ALLOY STEELS

SQUEAKS FROM THE BULL WHEEL

Now He Knows

An old countryman had been about Vancouver for some time without work, but finally got a job cutting the slabs into stove lengths.

The hazy circle at the outer edge of the circular saw had a tremendous fascination for him and at last he put his finger over it to see just what it was. His finger came off.

As he stood gazing at the bleeding finger stump, the foreman came along. "Well, what's the matter here?" he asked.

"Blime me if I know," was the reply. "You see I just put my finger over the saw like that * * * My gawd, there's another one gone!"—(Forbes).

A person who had killed his mother and father was on trial for his life. The evidence was overwhelmingly against him, and the jury could have handed in a verdict of guilty without even adjourning.

As a last resort, the lawyer for the accused made up his mind to attempt a tender appeal which might arouse the sympathy of the jury and turning to them, his voice trembling with emotion, he exclaimed. "Oh, men! Mercifully consider this poor boy who is only an orphan!"

They did, and he only received the electric chair.

---

3 in 1 (Hair) Oil

"I don't know whether to accept this testimonial or not," mused the hair restorer man.

"What's the matter with it?" demanded the advertising manager.

"Well,'" explained the boss, "the man writes: 'I used to have three bald spots on the top of my head, but since using a bottle of your hair restorer I have only one'."—Judge.

Doctor: "I'll examine you for fifteen dollars."

Art Johns: "All right, Doc, and if you find it we'll split fifty-fifty."

Wife—There's a burglar at the silver and another in the pantry eating my pies. Call for help!

Hub (at window) — Police! Doctor!

Pat Wins the Cake

For about half an hour an oil man from Denver had been boasting to an Irishman about the significance of the Rocky Mountains.

"You seem mighty proud of thim mountains," the Irishman observed.

"You bet I am," replied the man from Denver. "And I ought to be, since my ancestors built them."

The Irishman thought this over for a few moments and then asked: "Did you ever happen to hear of the Dead Sea?"

"Yes, indeed," replied the oil man from Denver.

"Well, my father killed it!"

A Clear Case

Stage Hand: "Did you say you wanted a window or a widow?"

Show Manager: "I said window, but they're both much alike. When I get near either of them I always look out"—Winnipeg Free Press

---

Team Work

Mrs. Peck—We have been married twenty years today, John.

John (with a sigh)—Yes, for twenty years we've fought—"

Mrs Peck (scowling)—What?

John (quickly)—Life's battles together, Maria.

It was a dark night, and the motorist was lost. Presently he saw a guide post with a sign at the top. Climbing the post with difficulty, he read the sign. It said, "Wet paint."—Hardware Trade.

Not Trustworthy

"What is the reputation of the defendant for veracity?" asked the lawyer. "Is he regarded as a man who tells the truth?" "Well, I can't say as he don't never tell the truth," answered Hiram. "But I do know if he wanted his hogs to come to their feed he'd have to get somebody else to call them."

Mother: "What kind of a show did Pop take you to, Bobby?"

Bobby: "It was dandy, Mama. They had ladies dressed in stockings up to their necks."

Enough to Raise the Dead

An applicant at the Ford plant asked a veteran Ford employe if it were true that the company was always finding methods of speeding up production by using fewer men.

The veteran repied: "Most certainly. In fact," he continued, "I just had a dream which illustrates the point. Mr. Ford was dead and I could see the pallbearers carrying his body. Suddenly, the procession stopped. Mr. Ford had come to life. As soon as the casket was opened he sat upright, and, on seeing six pall bearers, cried out at once: 'Put this casket on wheels and lay off five men.'"

The Feminine Mind

"I want some cigarettes for my husband," she said.

"Cork?" asked the clerk.

"Is that better than tobacco?" —Progressive Grocer.

Doorman (at Society Circus): One minute, please. Kindly show your tickets.

Mrs. Ford (indignantly): But we're the six acrobatic Fords.

Doorman: I don't care if you're the Packard eight; you can't pass me.

Irate Papa—"What do you mean by coming home at 4 A. M.?"

Flapper—"For heaven's sake, pop, I have to patronize the old roost some time, don't I?"

Husband (reading from newspaper): "Three thousand four hundred and twenty-six elephants were needed last year to make billiard balls."

Wife: "Isn't it wonderful that such great beasts can be taught to do such delicate work!"

"She's the most modest girl I know."

"Really?"

"Yes. Why, she's so modest when she went to school she wouldn't have anything to do with improper fractions."

Unlucky Motorist (having killed the lady's pup)—"Madam, I will replace the animal."

Indignant Owner—"Sir, you flatter yourself."

Here is Greater Power and More Rugged Strength

The Genuine Williams "Vulcan" Break-out Wrench, known to a great host of drillers as "Maud," provides exclusive features and advantages. No other tongs approach it in general efficiency, durability and economy.

Why trust to a less trusty tool?

Literature?

J. H. WILLIAMS & CO.

"The Wrench People"

New York **BUFFALO** Chicago

Note the construction of this rugged, powerful tool—

Short, sturdy handle.

Jaws fastened with through-bolt—can't spread.

Chain proof-tested to 2/3 of breaking strain.

Suspension Clamp and Tackle Eye of ample size.

WILLIAMS

SUPERIOR DROP-FORGED TOOLS

"VULCAN" BREAK-OUT WRENCH

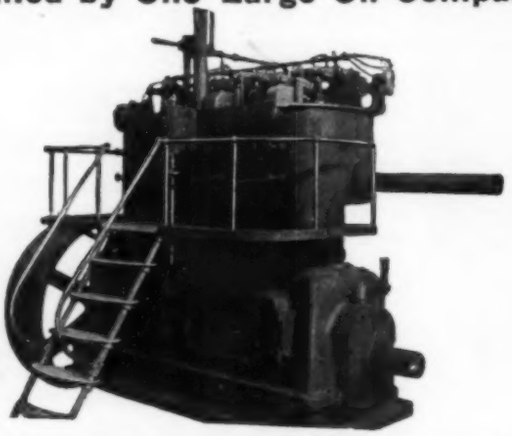
COMMONLY KNOWN AS

"MAUD"

Bruce-Macbeth Gas Engines — **EFFICIENCY**

28-165 H. P. Bruce-Macbeth Gas Engine—Without Water Jackets Installed by One Large Oil Company Last Year

3500 H. P. with Direct Connected Generator installed in one other large plant.



One customer replacing motors with Bruce-Macbeth Engine claims a saving of 35 per cent on power cost during year 1924.

Nine engines of this latest construction operated 24 hours per day, under full load, from last June to date, without grinding valve.

Specify Bruce-Macbeth Gas Engines on your next plant

THE BRUCE-MACBETH ENGINE CO.

Main Office and Works—Cleveland, Ohio

J. B. SIMLER, District Manager
209 South Cincinnati Avenue Tulsa, Okla.

ECONOMY — Bruce-Macbeth Gas Engines

GUIDE FOR PURCHASERS

Accountants—
F. C. Lancton

Air Compressors—
Continental Supply Co.
Gardner Governor Co.
Hope Engineering & Supply Co.
Southern Engine and Pump Co.

Air Lift Pumping Equipment—
Gardner Governor Co.
Sullivan Machinery Co.

Asbestos Roofing—
Johns-Manville, Inc.

Attorneys—
Hirsch & Hannay
Vinson, Elkins & Wood

Balls and Seats—
Bradford Motor Works
Continental Supply Co.
Norris Bros.
The Charles N. Hough Mfg. Co.

Band Wheels—
Continental Supply Co.
Emsco Steel Products Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

Bell Nipples—
The Cunningham Co.

Belting—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Co.
Gustin Bacon Manufacturing Co.
International Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Stanley Belting Corp.

Bit Steel—
Central Steel Co.

Black Diamonds—
R. S. Patrick

Boilers—
Bridgeport Machine Co.
The Brownell Co.
Continental Supply Co.
Frick-Reid Supply Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Republic Supply Co.
Regan Forge & Engineering Co.
Star Drilling Machine Co.
Titusville Iron Works Co.
United Iron Works, Inc.
See Oil Field Supplies and Tanks

Boiler Tubes—
The Tyler Tube & Pipe Co.

Blowout Preventer—
Baash-Ross Tool Co.
Cameron Iron Works
Continental Supply Co.
Regan Forge & Engineering Co.

Burners—
Continental Supply Co.
Gaso Pump & Burner Mfg Co.
Gould Burner Co.
Regan Forge & Engineering Co.

Bull Wheels—
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

Calf Wheels—
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

Carbon and Bortz—
R. S. Patrick

Casing—
Continental Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Superior Tube Company

Casing Shoes—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Continental Supply Co.
The National Supply Cos.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

Cement Hardener—
The Sullivan Co.
W-K-M Co.

Cement Head—
MacClatchie Mfg. Co.

Chain—
Baldwin Chain Co.
Chain Belt Co.

Chain Blocks—
Yale & Towne Mfg. Co.

Charcoal Iron Boiler Tubes—
The Tyler Tube & Pipe Co.

Chemicals—
Ward Chemical Co.

Collapsible Rotary Bits—
O. M. Carter

Conservation—
Westcott and Greis

Control Heads—
Continental Supply Co.
Palmer Specialty Co.
Southern Brass Mfg. & Plating Co.

Core Drills—
O. M. Carter
Elliott Core Drilling Co.
Spengler Core Drilling Co.

Compressors—
Butler Mfg. Co.
Continental Supply Co.
Gardner Governor Co.
F. W. Heitmann Co.
Hope Engineering & Supply Co.
Sullivan Machinery Co.
United Iron Works, Inc.

Cordage—
Continental Supply Co.
The National Supply Cos.
Republic Supply Co.

Crown Blocks—
Baash-Ross Tool Co.
Continental Supply Co.
International Derrick & Equipment Co.
Lufkin Foundry & Machine Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Couplings—
Continental Supply Co.
Harrisburg Pipe & Pipe Bending Co.
A. O. Smith Corp.
Superior Tube Company

Dehydrating Processes—
Wm. S. Barnickel Co.
Petroleum Rectifying Co.

Derricks and Rigs—
International Derrick & Equipment Co.
Lee C. Moore & Co.
National Turnbuckle Derrick Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Robertson-McDonald Lumber Co.
Superior Tube Company

Diamond, Black—
R. S. Patrick

Diamond Core Drills—
Sullivan Machinery Co.
R. S. Patrick

Diamond Drilling Carbon—
R. S. Patrick

Disc Bits
Continental Supply Co.

Ditchers—
Barber-Greene Co.
Buckeye Traction Ditcher Co.

Draw Works—
Continental Supply Co.
Lufkin Foundry & Machine Co.

Drilling Cables—
American Cable Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Star Drilling Machine Co.
Wickwire Spencer Steel Corp.
Williamsport Wire Rope Co.

Drill Pipe Slips—
Baash-Ross Tool Co.
Continental Supply Co.

Drilling Machines—
Bridgeport Machine Co.
Continental Supply Co.
Keystone Driller Co.
Parkersburg Rig & Reel Co.
Star Drilling Machine Co.

Drill Collars—
Baash-Ross Tool Co.
Continental Supply Co.

Drill Pipe Cutting—
Baash-Ross Tool Co.
Houston Engineers, Inc.

Drilling Tools—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Continental Supply Co.

Drilling, Diamonds for—
R. S. Patrick

Drill Pipe—
Continental Supply Co.
Frick-Reid Supply Co.
Republic Supply Co.
Reading Iron Co.

Drilling Equipment—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Republic Supply Co.
Star Drilling Machine Co.
Western Supply Co.

Drive Pipe—
Continental Supply Co.
Republic Supply Co.
Reading Iron Co.
Superior Tube Company

Electrical Equipment—
Westinghouse Elec. & Mfg. Co.

Elevators—
Bridgeport Machine Co.
Continental Supply Co.
The Cunningham Co.
Dunn Mfg. Co.
Gulf Coast Machine & Sup. Co.
LeBus Rotary Tool Works
Wilson & Willard Mfg. Co.

Engines Diesel—
Western Machinery Co.

Engines, Gas—
Bruce-Macbeth Engine Co.
Climax Engineering Co.
Continental Supply Co.
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
Spence Machine Co.
The Pattin Bros. Co.
Western Machinery Co.

Engines (Gasoline or kerosene)—
Climax Engineering Co.

Engines, Oil—
Continental Supply Co.
Frick-Reid Supply Co.
The Pattin Bros. Co.
Western Machinery Co.

Engines, Pumping—
Ajax Iron Works
Bessemer Gas Engine Co.
Bridgeport Machine Co.
Climax Engineering Co.
Continental Supply Co.
The Brownell Co.
De La Vergne Machine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
The National Supply Cos.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Republic Supply Co.
Rock Island Plow Co.
Spence Machine Co.
Southern Engine & Pump Co.
Titusville Iron Works
Western Machinery Co.

Engineers—
David Donoghue
Foster & Reiter
Hope Engineering & Supply Co.
Lee C. Moore & Co.
Oil Conservation Engineering Co.
D. T. Ring
Westcott and Greis

Fire Protection—
Continental Supply Co.
Oil Conservation Engineering Co.

Fish Tail Bits—
Continental Supply Co.
Frick-Reid Supply Co.
Lucey Manufacturing Corp.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
W-K-M Co.

Floor Circle Brace—
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Dunn Mfg. Co.

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Gulf Refining Co.
Sinclair Refining Co.

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Bessemer Gas Engine Co.
Hope Engineering & Supply Co.
Sullivan Machinery Co.

Gauges—
Continental Supply Co.
Oil Conservation Engineering Co.
Westcott and Greis

Gas Engines—
S. M. Jones Co.

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American Tank Co.
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Smith Separator Co.
Trumble Gas Trap Co.

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Parkersburg Rig & Reel Co.
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Reed Roller Bit Co.

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Superior Tube Co.

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W-K-M Co.

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Pelican Well Tool & Sup. Co.
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Brown Welding & Machine Co.
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Houston Engineers, Inc.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Company
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
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Sullivan Machinery Co.
W-K-M Co.
Western Supply Co.

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Tractor Winch—
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Twin City Co.

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Continental Supply Co.
Lufkin Foundry & Machine Co.
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Continental Supply Co.
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Tubing Lines—
Continental Supply Co.

Tubing—
Continental Supply Co.
Republic Supply Co.
Reading Iron Co.

Underreamers—
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Continental Supply Co.
Wilson & Willard Mfg. Co.

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Sullivan Machinery Co.

Valves—
Bradford Motor Works
Continental Supply Co.
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The Charles N. Hough Mfg. Co.
Ludlow Valve Mfg. Co.
Norris Bros.
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The Wm. Powell Co.
Pratt & Cady
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Wickwire Spencer Steel Corp.
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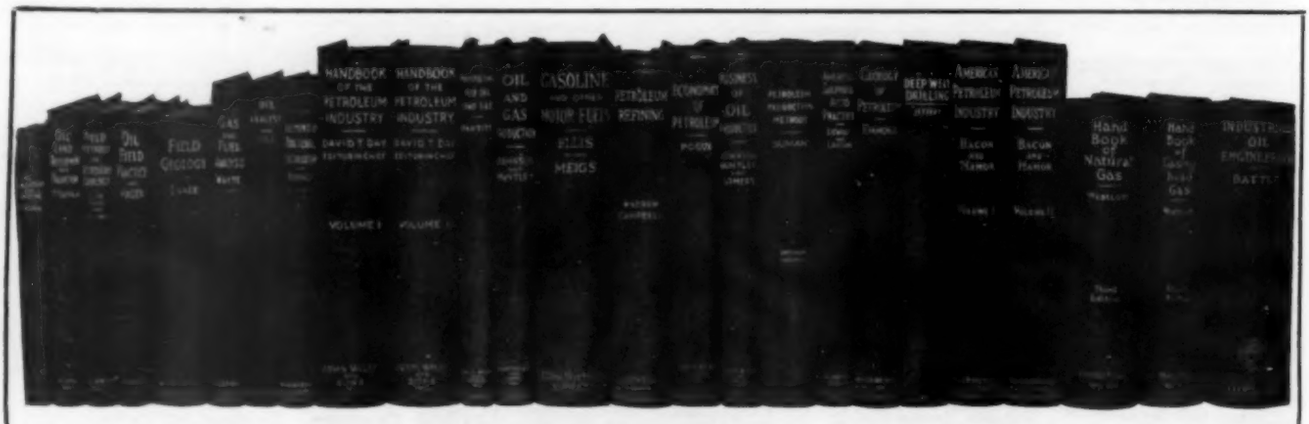
Western Supply Co.

Wire Line Clamp—
Western Supply Co.



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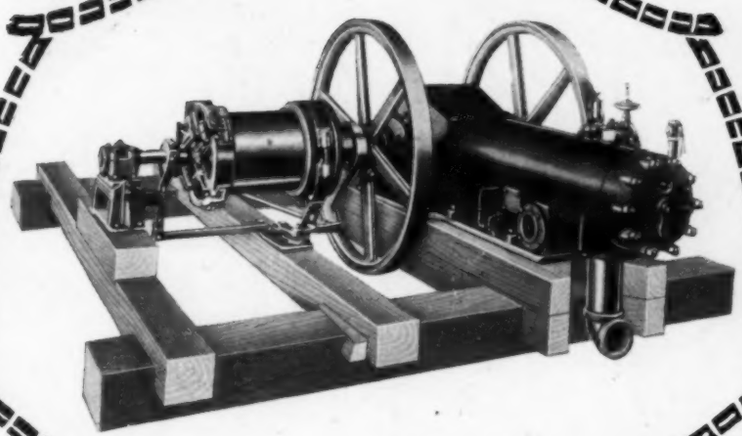

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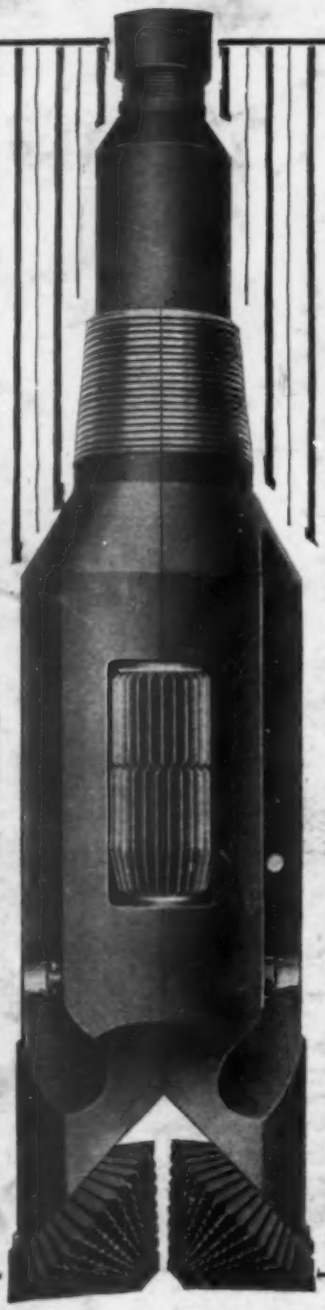

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